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THE LESSONS OF MONETARY EXPERIENCE

Harris & Ewing

IRVING FISHER ON HIS SEVENTIETH BIRTHDAY

THE LESSONS OF MONETARY EXPERIENCE

ESSAYS IN HONOR
of
IRVING FISHER

Presented to him on the occasion
of his Seventieth Birthday
by

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FOREWORD

THE AUTHORS of the essays comprising this volume, outstanding economists drawn from some fourteen countries throughout the world, including academic scholars, practicing bankers and government officials, have sought in this manner to pay tribute to Irving Fisher on the occasion of his seventieth birthday in recognition of his rich and varied services to economic science. They have deemed it an honor to be privileged to greet a master and pathbreaker in difficult regions.

The choice of subject requires a word of explanation. Professor Fisher's scholarly contributions to economics have embraced a wide range of subjects. Monetary problems have been but one of them. But we have liked to think that it is the one that has lain nearest his heart. We also felt it to be desirable that the book take the form of a symposium on one single topic of leading importance rather than a collection of articles on a diversity of subjects.

Our aim has been to produce a volume that would prove instructive and timely in registering current world opinion on what is to be learned from recent monetary experiences at this critical period of monetary history. To quote from the letter of invitation sent to contributors: "A symposium of opinions on *The Lessons of Monetary Experience* by outstanding scholars from many parts of the world would not only best honor Professor Fisher and be the most appropriate means of recognizing his accomplishments in the field of monetary thought, but at the same time should prove a valuable contribution to the subject of money at this time."

As editor I have attempted to secure articles from scholars representing various monetary viewpoints rather than to seek those whose views correspond to Professor Fisher's. Again quoting from the letter of invitation: "All contributors are asked merely to present scientific opinions on the lessons of recent monetary policies. Under no circumstances is it contemplated to include any eulogies of Professor Fisher's work. The only reference to him will be in the dedication of this book. We wish to get views from various parts of the world based on widely varying monetary experiences. Hence an attempt is being made to secure one or more contributors from each of the major countries or at least each of the major monetary groups."

The promptness and eager readiness displayed by contributors in responding to the invitation, and the short notice at which they were willing to prepare their articles, have been in themselves a notable tribute to the regard in which Professor Fisher is held by economists throughout the world. It is a pleasure to me, as editor, to express my hearty appreciation of the splendid co-operation I have received from the authors of this volume. I also wish, on behalf of a few other economists who were also invited to contribute, to express their and our regret that they were prevented by the pressure of other work from preparing articles in the short space of time allowed contributors. This circumstance explains the omission, from the list of contributors, of the names of certain scholars and certain countries which I had hoped to see included.

It is a matter of particular regret to us that no economist from France is included amongst the contributors. Three of the outstanding French economists accepted our invitation and hoped until the last to be able to contribute articles. Unfortunately, they have been prevented from so doing by the prolonged monetary unsettlement that their country has been experiencing during the past year. The high public offices that they hold increased the already heavy demands upon their time to the point of excluding everything else. They have asked me to express their sincere regret that they have been unable to prepare their articles.

I have to acknowledge a heavy debt to James Harvey Rogers, a very special student of Professor Fisher and now Professor of Political Economy at Yale, and to Hans R. L. Cohrssen for the truly invaluable help that they so generously and readily gave me at every stage in the planning and production of this book. Without their constant and unstinting co-operation it could hardly have been produced in its present form. Professor Willford I. King, of New York University, generously consented to act as co-editor with me in the event of my being absent from America during the later stages of the book's preparation. Fortunately I did not, in the outcome, find myself under the necessity of presuming upon his kindness.

The order of arrangement of the articles has primarily been, not alphabetically by authors' names, but rather by countries and groups of countries, in order to facilitate comparison of the views expressed by different contributors from the same country. The progression is roughly eastward from the United States, through Britain to the countries of Continental Europe, and finally to those of the Orient.

It need scarcely be said that the articles represent the personal views of the respective authors alone and are not to be associated in any way with their official positions.

I may not, according to the terms of the letter of invitation to contributors, express praise of Professor Fisher's work. Nor is it necessary. But, for the convenience of readers, I have felt justified in appending to the volume a selected bibliography of his more important economic writings, and a brief "vita" of his professional career.

ARTHUR D. GAYER

September, 1937
Columbia University
New York City

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THE LESSONS OF MONETARY EXPERIENCE

THE UNITED STATES

CONTROLLING BOOMS AND DEPRESSIONS[1]

By MARRINER S. ECCLES

THE TIME to prepare for floods and droughts is when there are no floods and droughts. Similarly, the time to prepare for economic disasters is when things are going smoothly. No one will deny that; but the regrettable fact is that we have made virtually no preparation for economic disasters in the past. As a consequence, when the crisis came we had to rely upon hastily improvised measures that were necessarily defective in their magnitude, operation, and timing. I feel strongly that this must not be permitted to occur again. The very continuance of our individualistic profit system in economic life and of our democracy in political life depends on measures being taken in time to lessen the booms and the depressions from which we have suffered in the past. Since the pioneer period of our national life is over and there are no longer unlimited and untouched lands and resources to which men can turn when things go wrong, the problem of maintaining a stable and rising level of prosperity for our people is one that requires the most searching study and the most farsighted preparation.

Recovery is now under way, but if it were permitted to become a runaway boom it would be followed by another disastrous crash. There are forces within our economic system which, unless checked and counteracted by positive action, foster booms and slumps. It is my conviction that there are steps that can be taken by the government, as well as by private enterprise, that would greatly reduce the fluctuations of business and would make for a more stable and a more continuously prosperous economic life.

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[1] This article also appears in FORTUNE magazine, April, 1937.

THE PROBLEM

The problem of controlling booms and depressions is a major part of any country's economic problem at its broadest. The problem is to provide for the nation the largest possible real income, in terms of goods and services, and to have this income so distributed between current consumption and investment as to provide for a continuous flow of goods from farm and mine and factory to consumers. Stated in another way, the problem is to provide continuously for the people of our country as high a standard of living as can be derived from our resources. We usually think of our individual economic welfare in terms of our money income. This customary attitude should not make us forget the truism that for the economy as a whole the end of production is consumption, and that the economic welfare of the nation at large is determined by how much we produce and how that production is distributed. The importance of this truism is that it supplies a test which all economic policies, programs, schemes, and devices must meet.

It is apparent that the problem of achieving the greatest possible per capita production is partly a question of utilizing our human and material resources as *fully* and *continuously* as possible and partly a question of utilizing them as *efficiently* as possible. Although these two aspects of the major problem overlap, it is helpful for the sake of straight thinking to make a distinction between them. The problem of preventing booms and depressions has to do mainly with the question of utilizing our resources as fully and continuously as possible.

American businessmen have devoted an enormous amount of attention to the problem of increasing efficiency or output per worker. Their success has won the envy and admiration of the world. They have, however, devoted relatively little attention to the problem of utilizing our manpower as fully as possible. They felt, doubtless, that there is little an individual can do about it. Recurrent depressions were accepted with fatalistic resignation as a necessary evil in a system that on the whole worked fairly well. The depression of 1921 was severe but it was easily explainable as an aftermath of the war boom and it was comparatively short-lived. The recession of 1924 was much milder and that of 1927 was barely perceptible. With the improvement of our industrial technique, the greater understanding of our economic system, and the strengthened financial structure under the Federal Reserve System, it was not an uncommon belief in the nineteen twenties that booms and depressions were a thing of the past, and that henceforth such fluctuations in business activity as would still occur would be of a minor character and perhaps salutary in weeding out unhealthy undertakings.

The developments of 1929-1933 brought about a radical change in our attitude. We found that all our technical ability and financial acumen were of little avail in the face of steadily shrinking demands for goods. The most efficient machine-tool manufacturer in the world could, for example, do nothing if he had no orders on which to work. The first aspect of the problem of securing national economic well-being was suddenly thrust upon us in the form of widespread industrial stagnation and unemployment. We were, however, totally unprepared to grapple with it. Our first impulse was to apply the homely precepts applicable to our individual problems. There was talk of the importance of living within our means and of the importance of balancing the Federal budget by curtailing expenditures. There was talk of the necessity of getting back to the old virtues of thrift, economy, and hard work. It was not appreciated that in the face of shrinking money incomes and expenditures any course of action that led to a further curtailment of community expenditures, whether it was increased saving or reduced government expenditures, merely intensified our difficulties and led to less utilization of our human and physical resources.

The fact of the matter is that, as many of us were forced by the logic of events to realize, the economics of the system as a whole differs profoundly from the economics of the individual; that what is economically wise behavior on the part of a single individual may on occasion be suicidal if engaged in by all individuals collectively; that the income of the nation is but the counterpart of the expenditures of the nation. If we all restrict our expenditures, this means restricting our incomes, which in turn is followed by a further restriction in expenditures.

As an aid in grasping this concept of a total community money flow of payments and receipts, the collection and publication of national income figures by the Department of Commerce, initiated in response to a Senate resolution introduced by Senator La Follette, have proved of inestimable value. In these annual compilations it becomes immediately apparent that the sums disbursed by industry and public bodies to wage earners, creditors, and, in the case of industry, to owners, are also the incomes received by individuals in the form of wages, interest, and dividends. From this it is but a brief step to the realization that, with allowance for physical capacity and price movements, money flows have their counterpart in goods flows.

The problem of preventing booms and depressions, therefore, is the problem of ensuring a flow of public and private disbursements just sufficient to call forth a sustained and well-balanced flow of goods and services. An excessive volume of expenditures results in widespread overtime work, inefficiency, and rapid price advances—an unstable and undesirable condition inevitably followed by reaction. An inadequate flow, on the other hand, results in the nonutilization of our human and physical resources and hence in a lowered standard of living.

WHY COMPENSATORY ACTION IS NECESSARY

Having stated the problem in these terms, we are immediately faced with the question: Are there natural forces which, alone and unaided, are sufficiently powerful to bring about the right volume of public and private disbursements? If not, what instrumentalities may be utilized and what policies might be adopted to ensure that an adequate volume be maintained over a period of years?

The chances are exceedingly remote that unplanned and uncoordinated expenditures of industry and of all public bodies will be adequate, and no more than adequate, to provide for the relatively full utilization of our labor force over a long period of time. The number of things that can disturb the proper balance, if it should ever be attained, is legion. Some of these are adverse developments abroad, widespread strikes, overexpansion and collapse in important fields, excessive credit and monetary expansion or contraction, widening gaps between the effective demand for consumers' goods and their supply, between current savings and the opportunities for their profitable investment. The more the problem is studied the more one becomes convinced that the balance is extremely delicate and that departures from it can be caused by a host of factors; factors that are not remote possibilities but have existed in the past, exist now, and, so far as we can foretell, will exist in the future.

Those who believe in nature taking its course argue that there are forces that tend to restore the flow of income when it is disturbed. A rapid decline in one industry, it is thought, by lowering wages and interest rates and hence reducing costs, tends to stimulate expansion in other industries; a decline in security speculation likewise tends to lower interest rates; a fall in prices is believed to stimulate demand; and so on.

The answer to this argument is that it is true as far as it goes, but it does not go far enough. It assumes a condition of stable national income, and this is precisely the condition that is absent during a general downswing. When business as a whole is receding, a decline in one industry, with its accompanying reduction of wage, dividend, and other disbursements, far from stimulating other industries, may provoke or accelerate a decline in them. Similarly, in depressions, when incomes are falling, a reduction in prices may fail to stimulate demand. This is particularly likely to happen if a further continued fall in prices is generally expected. Thus a departure from stability, although it may set in motion corrective forces, also unfortunately produces intensifying and aggravating ones. Our recent experience is grim witness to the fact that these latter forces may far outweigh the corrective forces for an impossibly long period. Before the self-generating forces of deflation in the last depression were exhausted or were offset by positive government action, the national income had been cut in half, and a sixth of our population was being supported out of public funds. Now that we are on the upswing, the self-generating forces of revival might carry us into another boom unless we are prepared to take corrective action in time.

There is a real danger, to my mind—and I say this not as a prophet of evil but as an advocate of stability—that the business and financial community may again be lulled into a false sense of security by the steady revival and by recent banking and security reforms. I do not mean to imply that we are experiencing a false or artificial recovery; neither do I wish to underrate the usefulness of the new powers of government with respect to the regulation of security issues, speculation, and banking. Nevertheless, it is only prudent to recognize that too much reliance may be placed upon the remedial and corrective legislation of recent years. There are too many factors that can disturb the balance which have not been touched by legislation or which are not amenable to it. Of this I am convinced: Unless we prepare ourselves now by developing the necessary machinery we shall continue to experience excessive fluctuations in business activity in the future.

To be forewarned is to be forearmed. Problems are never solved by being ignored. Let me state quite frankly, therefore, some of the possibilities that appear to me to be confronting us at the present time.

The most desirable course for business to pursue would be the continuance of a steady and orderly recovery movement, characterized by a steady increase in employment and production, and accompanied by little, if any, advance in prices. Such a movement would last longer than a more rapid upswing. And, at the end of the upward movement, our chances of transforming it into a period of stable prosperity would be infinitely better.

From 1934 to 1936 the upward movement was in fact orderly in nature, being characterized by a steady increase in employment and production. Government activity and expenditures were a main motivating factor in the movement. With the widespread existence of unutilized plant capacity and labor, increases in demand for industrial products were easily met by increases in supply without increasing prices. Sometime in 1936 and early 1937, with the increase in tax revenues and the decline in government borrowings, I believe that increased private expenditures in the production of durable goods became the factor of major importance; recovery became self-generating and proceeded under its own momentum.

This transition is significant not only from the point of view of the success of the government spending program as a recovery measure, but also as marking the beginning of a new period with new problems. The fact that durable-goods production is beginning to appear in substantial volume is an indication that a major part of our excess capacity of such goods has been taken up. Shortages of equipment and of certain types of skilled labor have developed. Speaking in very general terms, the transition is being made from a buyers' market to a sellers' market.

We are therefore faced with the paradox of deficient plant and labor in various fields at a time when there are still well over 8,000,000 unemployed. We need not expect the re-employment of all these people. Even in good times there is a more or less irreducible minimum of unemployment, due to seasonal factors, localized recessions, labor turnover, and sickness. It is variously estimated that the unemployment due to these factors amounted to some two million in 1929, or about 5 per cent of the gainfully employed. With an increased population, with older people constituting a larger proportion of the population, we may perhaps anticipate that this figure will be nearer three million in the future. Although this reduces substantially the present apparent slack in the labor market, there is an offsetting factor in the annual new additions to the number of workers. Estimating this figure at 600,000 a year, it appears that the number of available workers will be increased by nearly two million in the next three years. The employment of over 7,000,000 people at current or higher wage rates will mean a higher national income and increased demands for consumer goods. The production of more consumer goods will, in turn, require more capital facilities. The shortages in plant capacities and skilled labor that are now appearing may therefore be expected to become more acute before they are lessened.

Although there are special reasons in individual cases, the broad explanation of the position confronting us is to be found in the long continuance and severity of the depression. For seven years we added little to our capital equipment or to our supply of housing accommodations. During this period, however, population had been increasing, the pattern of the community demand for goods had undergone some change, new products were introduced, and in the plant there was little actual physical embodiment of technical improvements that had been worked out in the depression. Assuming a further increase in consumer demand, there will be a grave deficiency of capital goods and housing. It is estimated that in the field of housing alone an annual output three times that of 1936 will be required for five years to make up for curtailed construction during the depression and to accommodate needs currently accruing. This is the real significance of the question of accumulated shortages about which we heard so much in the depression. It is only with the rise in incomes and buying power that the shortages lead to an active demand and to actual investment. Accumulated shortages, in other words, are of major significance in the later and not the earlier stages of the current movement.

The bearing of the question on our main theme is apparent. It raises serious problems both in connection with the maintenance of an orderly upward movement without a material rise in prices, and the subsequent leveling out of this movement to a period of stable prosperity. After practical plant capacity has been reached, a further small increase in demand for goods results in a multiple demand for machinery and equipment to make those goods. In order to increase the annual output of consumer goods by an additional five billion dollars, for example, a capital investment of more than, and in some cases several times, this amount may have to be made. Similarly, a small increase in freight traffic, under the same conditions of full utilization of existing facilities, will necessitate a large sudden spurt of expenditures for the construction of new additional track and rolling stock. This, in turn, will be reflected in increased activity in the steel and other material-producing industries. When the additional demand for freight facilities has been satisfied, however, a sharp decline in the production of further new facilities may be expected to ensue, with corresponding repercussions upon the steel and other durable-goods industries. Too sharp an intensification of production thus tends to end in subsequent relapse.

A further danger is that the demand for goods may increase too rapidly to allow sufficient time for the addition to plant capacity. Partly in self-defense and partly because of a semi-monopolistic position, business men may abruptly raise prices. Skilled trades may capitalize on their strategic position by demanding higher wages and shorter hours. Difficulty in securing goods on the one hand and price rises on the other may lead to duplication of orders and speculative inventory buying. This would magnify the apparent shortages.

Later, when the output of durable goods (including housing) has expanded to meet normal growth requirements plus the accumulated deficiencies resulting from the depression, the necessity will arise for making the transition to production to meet normal growth requirements alone. Should the accumulated deficiencies be made up in several important industries at about the same time, the problem of maintaining a steady flow of purchasing power may become serious.

Whether the course of business activity will actually be along the lines sketched above is, of course, impossible to say. I mention it merely as a possibility for which we should be prepared. Other factors, such as widespread tie-ups due to labor difficulties, or developments abroad, may completely alter the picture. The point is that the prospects for an unplanned and "natural" period of stable prosperity are definitely unpromising. Stable prosperity can be attained only if we are aware of the problem, if we are willing to tackle it vigorously, and if we can develop a broad positive program designed to correct economic distortion and unbalance.

SUGGESTED TYPES OF ACTION

I am convinced that the problem of securing greater economic stability cannot be solved by any single instrument. I feel that the problem is so broad and has so many ramifications, and the effectiveness of any one instrument or line of attack is so limited, that we must rely on the co-ordinated use of a variety of instruments, chief among them being our monetary, fiscal, foreign-exchange, labor, and price policies.

1. *Monetary policy.* In view of the severity of the preceding deflation, the monetary authorities first pursued an active easy-money policy by purchasing a large volume of United States Government obligations, later by permitting incoming gold to increase the deposits and excess reserves of member banks, which in turn enabled them to take up substantial amounts of government securities and in the process create further new deposits. The volume of demand deposits and of cash outside banks has expanded some $12,000,000,000, or 60 per cent over the figure for June 30, 1933. With a rate of turnover equal to that of 1929 the present volume of money is sufficient to support a national income of more than $90,000,000,000. When the recovery movement appeared to need little further support and a volume of money adequate to meet the needs of a complete recovery had been built up, action was taken to set a limit on the rate of expansion of money. This took the form of two successive increases in reserve requirements, effective in August, 1936, and March to May, 1937, which, by absorbing some $3,000,000,000 of the excess reserves of member banks, removed a large part of the basis for further expansion. Normally banks have a negligible amount of excess reserves. When we return to this normal situation, credit control measures will be felt more quickly and are likely to be more effective.

The Federal Reserve authorities, with the co-operation of the Secretary of the Treasury, have power to control and limit the expansion of reserves, bank loans and investments, and deposit currency. Under the Securities Exchange Act of 1934 the Board of Governors of the Federal Reserve System also has new powers to prescribe margin requirements "for the purpose of preventing the excessive use of credit for the purchase or carrying of securities." This is an important instrument of control to prevent a stock speculation based upon the extension of bank credit. (In 1929, it will be recalled, the credit extended to the market by banks to brokers and by others to brokers was about $9,000,000,000 as compared to less than $1,000,000,000 now.) The significance of this, as I see it, lies in the upper limit it imposes on the possible extent of business and price advances. So far as I know, there has never been a prolonged inflationary period that has not been accompanied and fed by an expansion of the means of payment. Monetary control is thus an indispensable instrument in controlling booms and depressions. This single instrument, however, has its limitations. Although upper and lower limits to business activity and price movements may be set by effective monetary control, the distance between these limits appears to be wide enough to permit fluctuations of such magnitude as to keep us far from our goal of stable prosperity. Hence I regard it as vitally important that monetary control be supplemented by other methods and measures.

2. *Fiscal policy.* Fiscal policy may be directed not only toward moderating and offsetting a decline in general business activity but also toward moderating the rate of expansion. Just as an excess of Federal expenditures over tax collections tends to increase incomes, enables banks to expand their investments, and, in so far as it results in the creation of new deposits, produces new buying power, so, contrariwise, an excess of tax collections over expenditures tends to restrain the growth of spending and to offset the expansion of private bank credit. Hence a full acceptance of the compensatory fiscal policy implies a willingness to run counter to private business behavior not only on the downswing but also on the upswing. I have advocated heavy government expenditures during the depression and I advocate debt retirement now that recovery is definitely under way. Both attitudes are part and

parcel of the same principle of compensatory action. The changed business picture calls for a different policy. But both policies are designed to achieve the same end—the end of moderating and offsetting the effects of fluctuations in the volume of private business enterprise.

I have never believed and I do not believe now that the budget should be balanced and the debt retired at the expense of those who are jobless and still in want, but that when an adequate volume of money has been created and private enterprise is rapidly expanding, as at present, a balance should be brought about through increased taxation if the yield from existing taxation, including social-security taxes, and from liquidation of assets held by the government, proves to be insufficient to produce the balance and permit retirement of the public debt as private debt expands.

Another reason for a reduction in the government debt in prosperous times is to make conditions more favorable for its increase in bad times. On fiscal grounds it is desirable that the Federal debt be reduced to as low a point as possible so that there will be no hesitation in increasing it when the need arises. As the upward movement continues, therefore, provision should be made for retirement of the public debt.

In view of the probable resort to increased government spending when the necessity again arises, it appears imperative that a careful study of our recent experience be made. We have accumulated a good deal of experience on the relative flexibility and effectiveness of various types of projects which should prove invaluable in aiding us to prepare for the future. The feasibility of maintaining a perpetual inventory of desirable projects might be investigated. Some progress is already being made along this line. As a means of maintaining purchasing power it would appear desirable to investigate the feasibility of tying in a flexible public-works program with the unemployment-insurance program. Although the subject is complex and many difficulties would have to be overcome, the importance of coördinating the various compensating activities of the government appears to warrant serious consideration of this proposal. It would be a pity if the next downturn caught us as unprepared as we were in the last depression and we had to suffer the delays and mistakes attendant upon a hastily improvised program of public works and work relief.

3. *Foreign exchange policy.* A serious threat to securing and maintaining a greater measure of business stability at home is the possible emergence of adverse developments abroad. One lesson we have learned in recent years is that, at a time when the world is as badly out of balance as it is today, we must not permit ourselves to be tied to a rigidly automatic gold standard that makes us helpless against the impact of forces from abroad. At a time when incomes, prices, exchange rates, or confidence abroad are declining rapidly, raising the price of gold in terms of dollars or other action on the foreign exchange value of the dollar would relieve the situation. In any case it appears desirable that we should retain a large measure of executive discretion in the exercise of powers through which we can affect the value of the dollar relative to other currencies.

One factor in this connection that was probably helpful in the years 1934-1935 may, if it continues to operate, result in difficulties in the future. I refer to the inflow of gold on foreign capital account. Although, owing to the coöperation of the Treasury, such inflowing gold is no longer permitted to result in an addition to the reserves of member banks, it does result, so long as the government borrows from the banks' funds to buy the gold, in a corresponding unnecessary and undesirable expansion in deposits. Moreover, the addition to foreign balances either through the appreciation of existing holdings or from future inflows is a potential threat to the stability of our security markets, since foreigners, like Americans, buy on the upswing and sell on the downswing. They intensify a speculative rise of prices and accentuate a rapid fall. It is also to be considered that the existence of large foreign holdings in our markets constitutes a threat to our neutrality status and to domestic stability in the event of a war abroad. One of the most difficult problems of financing a war—that of securing purchasing power abroad—would be solved if the foreign governments concerned could sequester the property of their nationals in our markets. The process of converting this property into cash and spending it would disturb both our commodity and security markets and would give rise to groups opposing a policy of strict neutrality.

In view of the prospects for a continued recovery here and the continuing political uncertainties abroad, future inflows of foreign capital may very well be in substantial volume. Since such inflows complicate the problem of achieving and maintaining prosperous stability, constitute a source of embarrassment to many countries from which the capital is flowing, and, in the present circumstances, have nothing to do with foreign trade or the international division of labor, there appears to be a clear case for adopting measures designed to deter the growth of foreign capital holdings in our markets.

4. *Labor developments.* It is important that the share of the national income going to labor should be increased, either through decreased prices or increased wages, as rapidly as earnings of business and industry will permit without increasing the prices of their products. It is also obvious that stoppages of production, if they should become widespread and occur in key industries, would interfere with an orderly upward movement. Thus additional obstacles may be put in the way of the movement of goods through existing bottle necks, creating an incentive for price rises and speculative inventory buying.

Problems of hours of labor should be carefully studied. Reduction of hours for the purpose of affording a reasonable amount of leisure has always been advantageous both socially and economically. Reduction of hours for purposes of sharing the existing volume of work, however, raises many intricate problems of relative costs, of increased shortages in individual lines, of losses in total output and, therefore, in national income. There is a danger that it may mean sharing poverty rather than sharing wealth.

The supply of work is not a fixed quantity any more than the people's demand for goods and services. Human wants are inexhaustible, and we certainly have enough wants, even of a reasonable and moderate kind, to keep all our workers fully employed for as many hours as our present state of economic and social development deems to be a full day's work. If sufficient purchasing power is provided there will be a sufficient demand to employ all available workers. There are excellent prospects that the increased disbursements of industry, particularly in the durable-goods industries, will supply this purchasing power.

Some thought might be given to the advisability of providing technical training in fields in which serious shortages threaten. This would not only further the objective of an orderly upward movement but would also result in increased total employment.

For the Federal government and all other public bodies to defer the type of work requiring skilled labor when shortages develop constitutes another and very effective means of lessening shortages of skilled labor. Such a course would also have the advantage of creating a backlog of work for the skilled when private business is unable to employ them.

5. *The movement of prices.* I have already pointed out the danger that the possible shortages in certain types of plant facilities and skilled labor may result in undesirable price advances, duplication of orders, and speculative inventory buying. It would obviously be very difficult to cope with such a situation by the use of monetary instruments. Such instruments are for the most

part nonselective. In any case, as I have pointed out, the effectiveness of monetary control consists more in setting an upper limit to expansion. Our problem here is with the emergence of harmful developments in particular lines before there is any general need to impose an upper limit. Similarly a compensatory fiscal policy is a comprehensive and over-all type of instrument not capable of dealing with particular cases of this kind and lacks the flexibility required to cope with short-term swings in a major cyclical movement. Both monetary and fiscal policies, however, and particularly the latter, may be operated in the direction of restraining the general upward movement so as to give more time for shortages to be met in various fields in which they occur.

In the case of excessive price rises of particular products in important fields, something of a direct nature might be done by effective antitrust legislation and by reducing tariffs under the flexible tariff powers.

REFORMS

I have indicated some of the things that might be done, or should be studied, with a view to moderating fluctuations. In conclusion I would refer briefly to the long-term problem of providing a more favorable background against which compensatory controls may operate.

Of the many institutional factors that contributed to the intensity of the depression a few may be singled out for discussion. It will be agreed by all that our banking system proved to be one of the weakest links in our economy. Nearly 8,000 banks failed. Total deposits shrank by $14,500,000,000 and deposits subject to check by $7,500,000,000. In the banking legislation of 1933 and 1935 much was done to prevent a repetition of this disgraceful record. Greater responsibility and authority for the determination of national monetary policies were conferred on a single public body; more ease of access to the lending facilities of the

Federal Reserve banks was provided; and the insurance of deposits up to $5,000 was instituted. In view, however, of the multiplicity of banking systems and of chartering and examining authorities, the inadequacy and, in many places, complete absence of banking facilities in country districts, it cannot be said that all the defects in our system have been eradicated. A major task of banking reform still remains to be done.

Another dangerous spot in our system proved to be security speculation. The legislation of recent years should do much to correct the past abuses, make for a more orderly market, and lessen greatly the danger of widespread forced liquidation in the future. Similarly, we are in a better position now to minimize the effect on the domestic economy of adverse developments originating abroad than we were in 1929-1933.

There is one factor that is much less obvious and yet is, I believe, of paramount importance in explaining the severity of business fluctuations. Wide fluctuations in the national income appear to be associated with the wide fluctuations in the expenditures on durable goods. Because these goods are durable, expenditures on them can be postponed. When the pantry is bare it must be replenished at once, but the obsolete kitchen range can always be made to do for another year. In a year of financial difficulty the railroads can decide to buy no locomotives, although they cannot decide to operate their locomotives without fuel. Thus the output of durable goods may undergo enormous fluctuations.

This fact becomes more significant as a community becomes wealthier and saves and invests more of its current income, since the great bulk of investment is, in the last analysis, associated with the creation of durable goods: new factories to produce new products, more efficient factories to produce old products, better homes, improved methods of transportation and communication.

As long as there are opportunities for profitable investment in durable goods, upon which investors can spend as much as or slightly more than the savers in the community set aside out of their incomes, the monetary circulation is not interrupted by this process. The businessman building an addition to his plant will put back into the flow of the community's income as much as the savers took out of it. As the community grows richer and its income increases, however, it becomes easier and easier for it to save. This is not only because there are relatively more well-to-do people who save a very large proportion of their incomes but also because the average man finds that his income is growing so that his margin of savings can be increased. It may then become a question as to whether businessmen can find enough opportunities for profitable investment to restore to the community's income this increasing volume of saving. If they cannot find such opportunities, a danger to prosperity arises, since the money saved may be kept idle or hoarded, or may flow into harmful speculative channels, bidding up existing values and thus interrupting the flow of the community's income and endangering the stability of employment, which is dependent upon that flow of income.

In case such a situation of oversaving in excess of available opportunities for investment should arise, it might be met by two lines of attack. On the one hand we might seek to ensure that more of current income is consumed and less is saved and, on the other hand, we might seek to make conditions more favorable for investment. The most promising instrument available to ensure that a large proportion of income is spent on consumption is taxation. By providing that the expenses of the government be financed largely out of taxes on the higher and intermediate income groups we diminish the total savings of the community and hence the total amount seeking investment and threatening to remain idle thus obstructing the monetary flow. The recently enacted tax on undistributed corporate earnings may be expected to increase the demand for the final products of industry. On the other hand, the present scale of taxes and benefits in connection with the old-age security program is likely to result in a substantial diminution in consumer buying power for a number of years.

Turning to the other aspect of the problem, that of providing favorable conditions for investment, the monetary authorities can help by maintaining relatively low interest rates. It will be borne in mind that I am here discussing a long-range problem. Looking ahead for some years I see no reason to expect that on the average long-term interest rates will increase materially above prevailing levels.

CONCLUSION

Such, in brief outline, is the positive program I would offer to meet the cyclical problem in the next few years and to provide a more favorable background for the attainment of a greater measure of long-term stability. Although various aspects of the program may be open to question, there can be no question as to the gravity of the problem and the need of a program. The fact that we are in the midst of a recovery does not for a moment mean that we have solved the problem of economic stability.

The problem today is as serious and as pressing as it has ever been. It can be solved only by knowledge, determination, and courage. It is my hope that the business and banking communities, which have so much at stake, will take a leading part in devising and supporting measures for its solution.

The President, in his inaugural address, recently emphasized the gravity of the problem. Let us, in his words, "refuse to leave the problems of our common welfare to be solved by the winds of chance and the hurricanes of disaster." Let us "not admit that we cannot find a way to master economic epidemics just as, after centuries of fatalistic suffering, we found a way to master epidemics of disease."

INTERNATIONAL MONETARY ORGANIZATION AND POLICY[1]

The Adequacy of Existing Currency Mechanisms Under Varying Circumstances

By JOHN H. WILLIAMS

I

IN DISCUSSING the adequacy of different international monetary mechanisms under varying circumstances, it seems desirable to begin with some analysis of the logical extremes, even though, as I shall try to show later, the real problem is to find the best compromise between them.

The extremes are fixed exchanges maintained by transfer of means of payment between the national monetary systems and flexible exchanges without international transfer of money. The gold standard would be an example of the first type of mechanism and the paper standard of the second, provided that both were entirely automatic. In these extreme cases there would be no money management, externally or internally.

The object of both systems is to achieve and maintain equilibrium of external-internal trade. For this purpose both systems provide a balancing or compensatory mechanism by which economic change, whether external or internal, sets in motion forces of correction which restore equilibrium of external-internal trade. But the compensatory mechanisms are different and work out their effects by different processes of change. The gold standard system works through variation of internal prices and incomes relative to export-import prices, and the paper standard system through variation of the prices of exports and imports, and of the other items comprising the balance of international payments, relative to internal prices and incomes.

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[1] This paper was read at the joint meeting of the American Economic Association and the American Statistical Association in Chicago on December 28, 1936, and is therefore printed also in the Proceedings of the American Economic Association. Systems of exchange control, such as the German, and others, are not considered in this paper.

It is important not to exaggerate this difference between the two mechanisms. It has been described as the difference between stable exchanges and stable prices, or as offering, or even compelling, a choice between external and internal monetary stability. Such statements are unduly simple and may be misleading. It must be recognized, for example, that export-import prices are part of the national price level and also that changes in these prices affect internal prices and incomes, so that flexible exchange cannot, automatically at least, ensure a stable national price level. By whatever mechanism, the process must always be one of interaction of external and internal trade. Nevertheless, the essential difference between the two systems is that fixed exchange requires primarily adjustment of the internal economy to the balance of payments and flexible exchange the reverse.

To the question of which system is preferable there can be no general answer. The flexible exchange system provides the more direct process of adjustment. A change in the balance of payments affects at once exchange rates and the price structure of the balance of payments, extending into the internal economy only so far as may be necessary to correct the disturbance. The fixed exchange process is more roundabout; international transfer of money may have affects upon the internal economy incommensurate with, and not directly related to, the initial change in the balance of payments, particularly if, as in a fractional reserve against deposits system, the monetary expansion-contraction is a multiple of the gold movement.

But there is a corresponding apparent disadvantage, in that variation of exchanges tends to correct changes in the balance of payments by preventing them. It does so by introducing an additional price variable. When, for example, a nation has an increased demand for imports or for foreign securities, the demand must press not only against the foreign price but also against the price of the foreign currency. In consequence, the change will occur more in price and less in quantity than if the exchange were fixed. To put the same point differently, under a gold standard nations can buy foreign goods and securities by transferring gold at a fixed price, but under a paper standard importers must bid for balances of foreign currency provided by exporters. Unless there is such flexibility that exports immediately respond, in which case there would be no problem of adjustment under either system, the scarcity price of foreign balances will tend to make imports rise in price rather than in quantity.[2]

Whether the fact that variation of exchanges tends to shut off international change is in reality a disadvantage or an advantage depends upon the circumstances and the objectives. The gold standard puts a high value on freedom of international trade and, in the strict theory, ignores the possibility that internal change resulting therefrom may be disturbing. As developed by the classical economists and in later refinements, it is essentially a static theory, which ignores the business cycle. The flexible exchange system would reverse the emphasis. This does not involve, necessarily, the assumption that international trade is unimportant or that in the longer run it may not be essential for maximum productivity and real income. It is based rather on the view that business cycle instability is too great a price to pay for it; and that without stability at home international trade itself will suffer the harmful effects of alternation of over- and underactivity within the trading countries.

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[2] There is not space to discuss this point fully. The gold-standard transfer of means of payment also sets up a resistance to the initial change—indeed that is the essence of any corrective process—but it works less directly on the prices of exports and imports and permits a correspondingly greater change in quantity. I believe, also, that there is no intermediate process between international transfer of means of payment, as in the gold-standard case, and money transfers wholly within the trading countries, as in the paper case; and that the references in the modern literature to transfers of "purchasing power" as an intermediate case turn either upon faulty analysis or upon variants of the gold standard, such as gold-exchange standard, which, for this particular point, is not an essential difference.

The practical difficulty is that it is easier to recognize the defects of the gold standard, with which we have had much experience, than it is to be sure that exchange variation would provide the cure for them. With the latter system we have had little experience, and interpretation of recent experience with a view to its future applicability is a far from simple task. That the gold standard has serious defects as a mechanism of adjustment has been made abundantly clear. Stated in terms of prices, what the gold standard assumes is stability of the entire composite of prices of which national price levels are the individual items. Whenever this condition is seriously violated, the conception of offsetting and counterbalancing price changes in particular countries, mutually correcting each other through gold flow, must be abandoned. These corrective changes become swallowed up in the disequilibrating effects of the common one-directional movement. This is why in major world-wide booms and depressions the gold standard has always collapsed.

The chief problem of international monetary policy is how to prevent the occurrence of world booms and depressions, and how to enable individual countries to protect themselves from such disturbances arising in the outside world, while at the same time retaining the advantages of international trade and capital movements. The first step toward the solution is as clear an understanding as we can have of how and why the disturbances develop under the gold-standard system. The case of war is the most obvious. It is a case of simultaneous two-way pressure. The demand of governments for war goods and services at home and abroad, financed largely with new money, raises prices both at home and abroad and produces such expansion of money at home and such an outflow of gold that gold reserves prove inadequate and the gold standard collapses. But though this collapse leads to a paper system and variable exchanges, no one, so far as I know, contends that the second state is preferable to the first, accompanied as it would be, or at least has in the past invariably been, by internal inflation. That the flexible exchanges are at such a time a disadvantage was shown by the fact that in the last war, though the gold standard had collapsed, it was necessary to peg the exchanges artificially in order to maintain the flow of goods to the Allies.

Leaving war aside, as an abnormal case, there appear to be two main reasons why the gold standard may not correct disturbances but may even foster, and extend the area of, maladjustments. One is the growing rigidity of internal prices and costs, of which so much has been said in explanation of maldistribution of gold in the twenties and the eventual collapse of the gold standard, the resistance of British costs to downward pressure imposed by an adverse balance of payments at the old exchange parity, the insensitivity of French and American prices to gold inflow, and the like. What conclusions to draw from this experience is not clear. In part, the maladjustments were due to the unusual speed and magnitude and uneconomic character of international changes, which we might hope would not be repeated. In part, without question, it was a problem of maladjustments of exchange rates. The War produced such sweeping and unequal changes in international relations that the prewar exchange rate structure was rendered meaningless, and the countries were unable to find a new, sustainable relationship. It is now thought by many that England would have been better off with a rate not only lower but more variable. On the other hand, it is difficult to believe, even with the aid of hindsight, that exchange stabilization was not necessary for both France and Germany as a means of terminating their postwar inflations; and it has been generally recognized in recent years that the remembrance of the postwar connection between unstable exchange and internal inflation has been in many continental countries a formidable obstacle to devaluation or depreciation of currencies.

Insistence upon rigidity of costs as a circumstance justifying resistance to external pressure raises the difficulty of determining how necessary or desirable it may be to construct an economic or monetary policy around such a focus. In the view of many economists, we must either find ways of lessening rigidities or find ourselves forced to give up the free price-quantity system of economic adjustment altogether. When the solution is found through currency depreciation, there is always the question of whether it is not at the expense of other nations, particularly if there is reason to think that the resistant high costs are due to inefficiency of production. A depreciation policy in such a case would almost certainly invite retaliation.

The second and probably the most serious dilemma for the gold standard, or for any international monetary system, is the control of capital movements. International capital movements are a part of the larger problem of the relation of investment to economic change, with productivity as their desirable aspect, and instability as their undesirable aspect. For capital movements, the gold standard, as it has operated in the past, is not a reliable corrective mechanism. Capital movements present two problems, a cycle problem and a crisis problem. The difficulty in both cases is how to prevent, or avoid the disturbing effects of, a cumulative one-way movement. We were brought up to say that if, for example, prices rise in country A, its imports will increase and exports decrease, and gold outflow will correct the price rise. But if the rise of prices (of commodities or securities) causes profits to rise, and capital is attracted more rapidly than goods, gold will flow in and prices will rise further.[3] If the automatic gold standard is supplemented by discount rate policy, a rise in the rate designed to curb internal expansion may attract short-time funds from abroad. Difficulties of this kind were fairly common in the twenties. With capital the most volatile item of the balance of payments, it is apt to dominate and to nullify any corrective effects which might otherwise result from the gold standard process of adjustment. It may produce an expansion in one country at the expense of others. It may lead to the purely temporizing policy, such as England at times pursued in the twenties, of offsetting long-term capital export by short-term capital import, thereby postponing fundamental readjustment. It may be the vehicle for a world-wide boom or depression, capital movements during the boom leading to expansion in the capital-importing countries and to highly prosperous export trade in the capital-exporting countries,[4] and the cessation of capital movements and the effects of the burden of fixed interest charges producing depression in the capital-importing countries, which then may spread back through the channels of trade to the capital-exporting, interest-receiving countries. It is surely not a coincidence that most booms and depressions, in the nineteenth century as well as in the twentieth, had international capital movements as one of their most prominent features. Finally, there is the phenomenon of one-directional short-term capital movements, which have had such disturbing effects since the War. This is mainly a phenomenon of fear and uncertainty. It is the international counterpart of those internal money panics which have played such a large part in our own history.

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[3] There is not room to discuss in detail such "vicious circles," or cases of indeterminate equilibrium, which may take various forms and spring from many causes, such as the magnitude and speed of change, the relative restrictions on trade and capital movements, comparative sensitivity to interest rates and prices, the relative response to security price changes and goods price changes, panic fear and uncertainty, elasticities of demand-supply, price rigidities, speculation, and so on.

[4] In this case there may be little or no gold flow: the disequilibrium may not be in the balance of payments but in the internal economies. Such all-round expansion requires slack in banking systems, which is supplied by changes in velocity, or by central banks' free reserves, or by breakdown of gold reserve requirements.

It is in connection with the problem of capital movements that the case for flexible exchanges appears to be strongest. It may be argued, for example, that exchange variation operates directly and powerfully against capital movements, whether long or short; that, in other words, this is a case in which the effect of flexible exchange, in shutting off international change by enhancing price at the expense of quantity, is clearly desirable. In this way, the internal monetary system can be protected from the deflationary effects of an otherwise uncontrollable capital outflow, or protected from the inflationary effects of an otherwise uncontrollable capital inflow. Moreover, if the system of flexible exchange is combined with internal money management, the possibility of effective internal control is enhanced by exchange variation. If, for example, as has happened in some situations, the internal effects of discount rate changes or open-market operations are nullified by their opposite effect on international short-term capital movements, exchange variation would protect internal control from external interference.

Moreover, it might not be necessary to concede that under such a system international capital movements of a desirable kind and amount would be prevented. It could be argued that such movements, as often occurred in the nineteenth century, would be fairly closely related to trade changes, a railroad loan, for example, being the counterpart of a demand for railroad equipment, or a demand for capital by a young country being closely related to the exchange of industrial imports for exports of foods and raw materials to the capital exporting country. In so far as the goods movement and the capital movement kept pace with each other, the need for exchange variation as a means of adjustment would be minimized. To the objection that capital will not venture abroad if the future exchange rate is not known, it might be answered that the danger of loss might be no greater than is the case when there are periodic breakdowns of the gold standard.

The case for flexible exchange, or at any rate the case against the gold standard, has appeared to receive further powerful support from the world's experiences in the depression. Looking back, we have to recognize that recovery in every country where it has occurred has been accompanied by monetary expansion, and that this expansion occurred after the internal economy had been freed from external pressure, either by currency depreciation or by exchange control. We have to recognize also that internal recovery has led, in some degree at least, to external trade recovery, and that in the case of the young countries in which it is scarcely possible to distinguish an internal trade separate from their foreign trade, their recovery has been mainly due to the recovery in their export markets, which in turn is mainly traceable to the internal recovery of the industrial nations. Some of the results are paradoxical, and contradictory to what may be called the orthodox theory of a paper standard, which quite as much as the gold-standard theory, has been developed mainly as a static theory. It is found, for example, that the foreign trade of the depreciated currency countries has increased mainly among themselves, and not with the gold-standard countries, as would be expected from the "terms of trade" analysis, with its emphasis upon the "bounty on exports" and burden on imports.

Most paradoxical of all is the fact that England depreciated the pound and then was able to stage a recovery on cheap imports.

What conclusions to draw from this experience of the depression is not an easy question. It is clear, of course, that the gold standard collapsed, as it has usually done in major booms and depressions. It seems probable, also, that capital movements as well as other maladjustments which the gold standard had previously fostered were a cause of the depression, though the causation was probably so complex as to make the singling out of a main cause extremely dangerous. Still harder is it to say what might have happened with some other system. There is considerable evidence to support the view that devaluations of currencies played a part not only in bringing on the depression but in intensifying it at certain stages. The fact that some currencies were devalued and some were not prior to the depression played a large part in the discussions of maldistribution of gold. The fact that the franc was undervalued in 1926-1928 certainly greatly accentuated the difficulties resulting from the overvaluation of the pound. In a subject full of paradoxes, perhaps the chief is that the cycle of depreciations which began with the devaluation of the belga and the franc could not be regarded as closed, if it is closed, until the belga and the franc had again been devalued. Having cited the evidence in favor of currency depreciation during the depression, I must cite also this "vicious circle" effect of currency depreciation as the chief evidence against it. Indeed, one main part of the explanation of the recent "gentlemen's agreement" is that it was hoped that for once, at least, it would be possible by such means to achieve a devaluation of a currency without its being followed by other devaluations or depreciations. Whether this hope will be realized is still a question.[5]

There is one further important piece of evidence from the depression. No nation has shown any desire for a flexible currency. What was wanted in every case, and what was compelled in most cases, was to cut loose from the system of fixed exchanges in order to escape from the intolerable deflationary pressure. The fact that this action intensified deflationary pressure upon others has already been mentioned. It is the essential explanation of the fact that England, after depreciating its currency, was able to enjoy cheap imports. But in most cases there was no choice, and the process continued to the point where, when enough nations had depreciated their currencies, or cut loose by exchange control, the cessation of deflationary pressure in those countries more than counterbalanced, for the world as a whole, the intensified deflationary pressure imposed upon those countries which had not yet depreciated. It therefore seems necessary to conclude both (1) that the succession of currency depreciations prolonged and intensified the depression, and (2) that it played an important role in the recovery.

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[5] Some other devaluations accompanied the devaluation of the franc, and it appears certain that some controlled exchanges will have to follow it, sooner or later. But the question is whether that will end the new series. This was written in December, 1936. In June-July, 1937, there occurred a further substantial depreciation of the franc.

But such a conclusion throws little light upon how to plan for the future. It does not show how to prevent future depressions, or what is best to do if they occur. It does not prove, for example, that a stronger stand for exchange stability at an earlier stage of depression, based upon international co-operation and accompanied by a common program of internal monetary expansion, might not be feasible and productive of better results. It only shows that in the absence of such a program, nature will eventually find a cure.

After cutting loose from the gold standard, what every country has done—save for the exchange control countries, where it seems obvious that some further action will be necessary—has been, in one degree or another and in one way or another, to tie back on again. As just said, there is no evidence of any desire for a really flexible currency. The United States, after going off gold definitively in April, 1933, had returned to a fixed buying and selling price of gold by the end of January, 1934. England, which is commonly cited as the country least willing or likely to return to the gold standard, has been acting essentially like a managed gold standard country virtually from the day she went off gold. The Equalization Account, as thus far operated, has been a device, not merely for ironing out day-to-day fluctuations, but for preventing a rise, and perhaps at times a fall, in the pound, by means of an international gold flow to and from England. Had England really wanted a flexible currency she would have allowed the pound to rise against the franc as capital took flight to London, which might have prevented the second devaluation of the franc. But no one would have seriously advised such a course. The rise in terms of the franc would have been a rise also in terms of other currencies, including the dollar, which would have recreated England's problem, and would in any case have led to a subsequent fall when the capital flowed out again. England has, therefore, though officially off gold, accumulated more gold than ever before in her history.

II

It seems clear from both logic and experience that the solution of the international monetary problem must be conceived in terms of compromise. Pursuing a rough progression from automatic gold standard to automatic paper standard, the possible range of compromises would run somewhat as follows:

1. Automatic gold standard.
2. System one, plus discount rate.
3. System two, plus abolition of central bank gold reserve requirements for notes and deposits.
4. System three, plus open-market operations, designed:
    a) to prevent, at will, gold inflow or outflow from affecting member bank reserves and deposits, and
    b) to exert, at will, internal monetary control.
5. System four, plus a "borrowing authority" whereby either the central bank or the Treasury could sell (or buy) bills obtained from the Treasury *de novo*, either in exchange for gold or by outright gift, as a means of offsetting gold inflow or outflow.

6. System five, supplemented by direct control of specific items of the balance of payments, such as capital movements.
7. System five (or six) plus an option of exchange variation by making the gold sterilization fund also an exchange stabilization fund.

   This arrangement would require the absence in one or more monetary systems of a fixed buying-selling price of gold, and intervention by one or more countries, through their stabilization funds, in the exchange market, exchange balances being convertible into gold at prices agreed upon.
8. Exchange stabilization wholly detached from gold, plus internal money management.
9. Internal money management, without intervention in the exchange market.
10. Automatic paper standard.

It must again be emphasized that the problem is always one of adjustment of external-internal trade, so that any compromise mechanism must always operate within the limits which each imposes on the other. There can be no such thing as complete freedom of action in either sphere. Perhaps this is not so apparent to some countries today as it will become later. It must also be emphasized that the necessity for adjustment, in most cases, cannot be escaped, and that perhaps the chief danger in compromise is that it may permit, for a time, a temporizing policy which may only add to the difficulties of the ultimate adjustment.

A mere inspection of the list of compromises will probably narrow the range of practicable choice by common consent. A gold standard supplemented only by discount rate is clearly inadequate. At the other extreme, internal money management without intervention in the exchange market, and even exchange stabilization wholly detached from gold appear to be beyond the range of practical consideration, if only because there is now no hint of such systems.[6] The real range of choice, at our present stage, at least, lies in the middle.

The best guide to selection is found in consideration of circumstances. As already stated, capital movements have been a main, and probably the chief, source of disturbance, presenting both a crisis problem and a cycle problem. The crisis problem is the international counterpart of the domestic run on the bank, and might be met in the same way, by the utilization of large free reserves. In our present stage of monetary development, at least in the larger countries which have strong central banks, there is no reason why internal gold reserve requirements for notes or deposits should be allowed to impair a country's ability to withstand a run against its currency. Its entire gold stock should be put in its front window and specifically labeled as an international reserve. It would follow that there should be no internal convertibility of currency into gold, no possibility of internal gold hoarding. The fact that internal convertibility has now been discarded by the United States, England, and France is a large step forward. It should be possible, also, to prevent international gold hoarding, by confining gold transactions to central banks or treasuries, or for delivery by private banks to central banks or treasuries.[7]

If the capital movement is of the panic type, there may be no need for fundamental readjustment, or if there is, the problem will be to have it take place more slowly and in a calmer atmosphere, and in the meantime to protect the money market and the internal economy from destructive change. The old device for this purpose was the discount rate. It had a better chance of success in the prewar world than it now has, because of England's central position in world trade organization, because international short-term balances were smaller and more closely related to trade financing, and most of all, perhaps, because there was not the ever-present fear of currency devaluation or depreciation. In the postwar world, raising the discount rate to stop a panicky flight of capital has been a failure. It has not stopped the flight but has been taken as a symbol of fear that further flight would break the currency, which has led to further flight. Raising the discount rate under these circumstances has been a means not of protecting the internal economy but of intensifying deflationary pressure through high money rates. From this point of view, raising the discount rate in the United States after England went off gold in 1931 and the more recent high discount rates in France to prevent losses of gold prior to the franc devaluation, when both countries had abundant stocks of gold, must be regarded as mistakes of policy.

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[6] See below, however, for comment on sterling area countries.

[7] With provision for legitimate industrial uses.

To protect the internal economy from the effects of capital flight, outward or inward, it is desirable to impound the gold which, on the fixed exchange system, accompanies the flight, protecting member bank reserves from change. The addition of a "borrowing authority," as in current British practice, to supplement or supplant the use of the central bank's own portfolio for this purpose represents another major forward step. By this device there is removed the danger that in offsetting gold inflow by open-market operations the central bank will destroy or impair its ability to control internal monetary expansion through open market operations. This device removes the limitation previously existing in the size of the portfolio, and makes possible one-way operations on bank reserves, which are limited only by the ability of government to sell its securities and its willingness to bear interest charges.[8]

One other method of protecting member bank reserves is by changing the reserve requirements. This, however, is a more cumbersome method, much less elastic and more uncertain in its effects. It is a good method of sopping up excess reserves which have been built up gradually and have become well distributed among the banks, as in the United States at present; but as a continuous device it has the defects, first, that it permits gold movements to affect bank reserves, temporarily at least, and may thus affect bank assets and deposits, whereas the better method would be to keep them out altogether, leaving it to the central bank to control bank reserves on grounds of policy; second, that it would never be used as a day-to-day or even month-to-month device; third, that by hitting banks very unequally and keeping them in continual suspense it would interfere seriously with their operations.

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[8] There remains the limitation on gold outflow of exhaustion of the gold stock, or even of carrying it down to the fear-creating level.

On the basis of the discussion thus far, the compromise system indicated for controlling short-term capital movements is system five. There remains the question whether it may not be desirable or necessary to take one further step and include an option to vary the exchanges, as in system seven. Should not, in other words, the gold sterilization fund be also an exchange stabilization fund? Should not a country be in a position to raise its currency to stop an undesired capital inflow and to lower it to prevent an undesired capital outflow? This is a much more complex question. One argument often advanced for stabilization funds is that they can circumvent the speculators and remove or lessen this source of short-time movements. But, on the other hand, the fact that exchanges may be varied by the authorities is undoubtedly a prime cause of speculative interest in them. In a fixed exchange system, with fixed parity and gold points, speculation is stabilizing, since there is always a presumption that a currency which is above or below the parity will move toward it, through the effect of gold flow upon the demand-supply position in the exchange market. It is the removal of this certainty which augments speculative interest and makes possible cumulative one-direction speculative movements. The best way to discourage unstabilizing speculation is by a demonstration of purpose and capacity to maintain the fixed exchange.[9]

Another argument for providing an option of varying the exchange rate is that it may prove impossible otherwise to stop the flight of currency or prevent its having destructive effects upon the internal economy, and that if such is the case it is better to provide for an orderly and controlled change rather than to face the alternative of a shock-producing collapse of the fixed exchange system. This is a valid argument. The case for exchange variation by the type of procedure outlined in system seven is further strengthened by consideration of cyclical movements of capital; a capital movement which creates a boom in one country at the expense of depression in another, or capital movements leading to world boom and depression suggest the need of currency variation as a means of obstruction and prevention. The case is further strengthened by the consideration previously mentioned, that if internal monetary policy, through discount rate and open-market operations or a spending program or direct stock-market control, is in danger of being nullified by international capital movements, exchange variation provides a means of combating the external change.

But it must be recognized that currency variation is much the most complex type of interference. There is a strong presumption that it should come last, after other types of control have been clearly demonstrated to be inadequate. If there is an undesired flow of capital from country A to country B, should it be prevented by a method which affects relations with C, D, E, and sixty others? Should you stop a flow of capital from France to England by a method which raises the pound in relation to the dollar and all the others? Should you raise the pound to stop capital inflow from France if British industry has needed relief from an overvalued pound? Should we stop capital inflow from England to our stock market by raising the dollar or lowering the pound, if that will weaken American agricultural prices or increase competitive imports and impair exports? Without debating the merits of any particular case (in my own view the dollar has been too low ever since the War, a maladjustment which by our devaluation we missed an opportunity to correct) it seems clear that the question is complex, not only economically but politically. It seems probable that currency variation will tend, as in the past, to be one-way, downward in depression but not upward in a boom. And it seems probable, if it is desired to control capital movements between stock exchanges or capital issues which may have disturbing cyclical effects, that nations will try first some form of direct control, and find themselves much readier to co-operate with each other on that line, before resorting to the device of raising or lowering the currency.

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[9] It may be that fixed parities with wider gold points would increase stabilizing speculative operations within the gold points. On the other hand, they might exaggerate the swings if the gold points were too far apart.

The essential objection to exchange variation as a mechanism of adjustment is that it is at best a limited and constrained sphere of action, limited on the one hand by its possible adverse effects upon the home economy and on the other, by its adverse effects upon other economies. The result is that resort to it is likely to be indicative both of general disorder already existing, which it should be the aim of monetary policy to prevent, and of further general disorder to follow. In speaking of adjusting the balance of payments to the internal economy, rather than the other way round, it must not be forgotten that the balance of payments is an expression of relations between the national economies. Either the adjustment must be mutual, or if one economy is to escape, the burden is shifted to the others. Nothing in the depression experience contradicts this fact. What it does show is that if other means of correction fail, or are not tried, the revival of the home economy, by currency depreciation if necessary, must be the decisive consideration, and by increasing the home purchasing power will eventually improve not only home trade but the foreign trade as well.

But the challenging, and as yet unanswered, question is whether this is not a unique case, the case in which there are no other options. It is an interesting fact that the only case in which there was room for a serious debate on the desirability of devaluation was the American case, which was also the only case in which there was a real option of alternatives. One of the factors which for so long delayed the recent devaluation of the franc was the fear of the rising cost of living. One of the factors delaying a relaxation of exchange control in Germany and a devaluation of the mark appears to be the fear of higher import costs. It is doubtful if a substantial decline in the pound could occur at any other time than severe depression without raising the cost of imports. The products of young countries are characterized by inelastic demand-supply, which is the major reason why a world trading center by depressing its currency can depress outside prices. But with higher employment and incomes in the world generally, there is more possibility of alternative markets for the young countries, and less to be expected by them from increase of British buying power; and more likelihood of retaliatory measures. With low incomes and employment in the world at large there is more to be gained from recovery of home trade, by currency depreciation or otherwise, than will be lost or gained from effects of currency variation on external trade. But in proportion as incomes and employment increase the reverse becomes true. This may well mean that in depression nations will be more prompt to vary their currencies than previously, even though at the expense of others, while with recovery they will show more interest in exchange stability. But it appears also to mean that at any other stage than depression, including prevention of depression, there will always be a presumption in favor of some compromise system which is built primarily around the principle of exchange stability.

I have presented the view, first, that there must be some form of compromise system; second, that this compromise should be one which will give the largest measure of internal monetary protection and control which is consistent with exchange stability; third, that exchange variation, while not excluded, should be resorted to only when other means of control have been exhausted.

I want to conclude with three points which, I believe, have a special bearing upon the present trends and developments with respect to international monetary organization and policy:

(1) The views expressed are not inconsistent with a keen and sympathetic interest in the new developments which have been growing out of the recent Tripartite Agreement.

(2) There are grounds for thinking that we do not need or want any single pattern of compromise in all countries, such as the gold standard pattern was before the War. Different kinds of countries require different kinds of monetary systems.

(3) The best prospect for stability in individual countries and in the world as a whole, so far as it can be achieved by monetary means, lies in more efficient monetary control within the major countries, especially the United States and England, coupled with co-operation between them; and on this basis, there is no such dilemma between internal and external monetary stability as has been frequently emphasized in abstract analysis.

THE TRIPARTITE AGREEMENT

The Tripartite Agreement of September 25, 1936, is a form of *de facto* stabilization, less definite and binding than any which had been previously proposed, and for that reason more acceptable and feasible. Whatever kind of system is ultimately to emerge, it has been commonly recognized that a trial period would be necessary before any more permanent and formal kind of stabilization could be ventured upon.

Moreover, the device—as set up under this agreement—for converting stabilization fund holdings of foreign currency into gold at a price that is based from day to day on the exchange rate may provide a new and better kind of exchange stability. Pressure on a currency will lead to its support through purchase by stabilization funds (or through sales of the other currencies) and to conversion of these balances into gold at a known price. If the pressure continues unabated it can be relieved by varying the exchange rate through varying the price of gold. With this instrument of flexibility at the disposal of the respective stabilization fund authorities, the result may be a greater assurance of exchange rates which are both more stable and more under control than has previously been the case. It will certainly make possible a more orderly change to new levels, if that is required; and it provides, moreover, a better possibility than we have previously had of effecting alterations in the exchange rate structure, of varying a currency with relation to some other without that change being communicated to all the others.[10]

It should be noted that, as it has thus far operated, this mechanism includes a fixed buying and selling price of gold in terms of dollars. Prior to the devaluation of the franc, the British Equalization Account operated against a fixed buying and selling price for gold in terms of francs. There is no evidence thus far that this kind of exchange stabilization can operate without being anchored to a fixed price of gold in one or more markets. In some respects, it would seem to be more feasible with only one, or a few countries, having a variable price of gold and operating against the fixed gold price maintained by the others. There is also the question of whether operations cannot be conducted more effectively by one, or a few, stabilization funds rather than by a larger number. The objection to having one country on a variable basis, in this sense, and the others on a fixed basis is, of course, that it implies a large measure of trust in the integrity and the freedom from nationalistic motives of the variable exchange country which would act as the stabilizing agency. But perhaps the knowledge that other countries could retaliate by devaluation, either by new legislation or under an authority previously granted and held in readiness, might be a sufficient deterrent. The possible difficulty in having more than one stabilizing agency is, of course, that they might not be able to agree when any major change in exchange rates is desirable. England might think it desirable to put the pound down, but other countries might not think it desirable to have their currencies go up in consequence. Again it seems clear that nations could co-operate better on some plan of monetary control which leaves exchanges stable than they could upon a plan involving variable exchange rates.

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[10] It may, for example, be desired to lower currency A relative to B but to raise it relative to C.

DIFFERENT CURRENCY MECHANISMS FOR DIFFERENT COUNTRIES

The discussion of the Tripartite Agreement indicates that it may be both desirable and feasible to have different currency mechanisms for different countries. Already there are included in (or attached to) the agreement countries with stabilization funds and a variable price of gold, countries with stabilization funds and a fixed price of gold, and countries with a fixed price of gold and without stabilization funds. It may be an open question whether France, which now has the first type (but whose variable price of gold is limited by law within a range)[11] may not, as Belgium did, return eventually to a fixed price of gold with no stabilization fund. And it may be a question whether the American fund will prove eventually to be primarily a gold sterilization fund or equally an exchange stabilization fund.

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[11] This refers to the French devaluation arrangements of October, 1936; the crisis of June-July, 1937, resulted in a further depreciation of the franc.

Some light can be thrown on the question whether the world needs a single, uniform system or a combination of different systems by consideration of the diversity of countries, and in particular the differences in their proportions of home and foreign trade. It would seem that the relatively self-contained countries should, in most circumstances, be less concerned about exchange variation as a means of correction of their business cycle maladjustments, and must rely mainly upon their powers of internal control. On the other hand, countries chiefly dependent upon foreign trade and foreign capital have most to gain and to lose by exchange variation; they most need exchange stability when foreign trade is prosperous, and they most need a currency adjustment when capital inflow is threatening to produce a boom, or when depression in the outside world is threatening their foreign markets. From this point of view, countries like the United States, and probably France, could best afford to have an unchanging currency, once a generally sustainable structure of exchange rates had been attained. Countries like Australia or Argentina would probably want fixed exchanges the larger part of the time, but with some provision for both depreciation and appreciation. Currency appreciation would be indeed a new phenomenon in the history of young countries, which like most others have been less concerned to stop booms than to stop depressions; but currency depreciation in depression would be only repeating what they have always done. The only new suggestion is that it might be worked out in some more orderly and deliberate fashion, as a conscious instrument of policy. For such countries, internal money management must be at best the minor part of policy. Since these countries are a minor part of the world economy, currency variations by them would probably not hurt others so much as it might help them. In these countries, as in all, there would be some conflict of interests. Currency depreciation, which might help export trade, would impair ability to pay interest charges, but this sacrifice is at the expense of the foreign creditor, who may be more able to bear it and should have been better able to calculate the risk in the first place.

Consideration of countries largely dependent on foreign trade suggests consideration of the sterling area. The development of the sterling area when England went off gold represents the emergence, in a more limited sphere, of the same type of international trade organization and hence of the same type of monetary system that existed before the War, when in a very real sense it could be said that England was on gold and much of the rest of the world on sterling. Within such an area, among nations closely tied by trade and financial relations, the need for stability of exchange is so compelling that when the center country varies its currency it is apt to carry all the other members of the group with it. In such an area, also, as was largely true before the War, the monetary control exerted at the center is likely to have a powerful influence throughout the area, which suggests that through stable exchanges forces of expansion or contraction can be initiated at the center and be transmitted throughout the area.

To hold such a unit together and to maintain exchange stability within it, it is probably unnecessary that all the countries, or indeed any of them, should be on the gold standard. What the constituents of this area need chiefly are foreign exchange balances in London; and as for the exchange stabilizing agency, what is needed is a sterling balance which the foreign country's central bank holds and which this bank can control by decreasing or increasing its purchases and sales of sterling at a price that is stable but which it reserves the right to vary. If there is need of gold, it is as an internal reserve for notes or deposits, as a protection against an unrestricted credit expansion; but this function could be performed also, as it can in other countries, by a central bank control of member bank reserves, without gold.

There is left for consideration those countries whose position is intermediate, whose foreign trade, though less in quantity or value than home trade, is nevertheless essential, in the long run, to a higher level of productivity and real income. In this group are such countries as England, preëminently, and also Germany. In so far as such countries have trade areas, their concern for stability of exchange in support of their foreign trade has been already dealt with. Exchange stability within the trade area appears to be the less troubling aspect of their problem; and in a sense is self-insured by the closeness of trade ties. But their trade with the rest of the world is on a different footing. It is here that the conflict of objectives as between internal and external monetary stability chiefly arises. In depression, such countries are likely to strike out for freedom of internal policy, even though the protective devices which are set up, including currency depreciation, work out their effects at the expense of others. How their freedom of action is limited in other phases of the cycle, particularly by rising cost of imports, has already been discussed. Whether England would appreciate its currency substantially to help ward off an internal boom, we have yet to see. We must remember that she is occupied and perhaps somewhat complacent with her internal recovery, for which the ground was laid not only by cheap imports, but in addition by an easy-money policy which is supporting both an extensive housing program (England having had no such construction activity as we had in the twenties) and now a feverish armament program as well. The fundamental question at the moment, then, is whether England, in the light of her present situation, may not be less concerned about her foreign trade, which has been noticeably backward in the recovery, than in the longer run she will need to be. In considerable measure, the problem of monetary policy, in so far as there is conflict of internal and external considerations, is a problem of business cycle versus the longer run forces which govern national productivity and income. The question, as stated earlier, is how to control short-time change without doing damage to the basic trade relationships.

THE SOLUTION MAINLY TURNS ON INTERNAL STABILITY IN THE MAJOR COUNTRIES, COUPLED WITH CO-OPERATION

The discussion of the sterling area suggests that for such a group monetary stability mainly depends upon the behavior of the center country. This suggestion has a larger application. The economic activities of the United States and England combined represent more than half of the total world activity; and these countries are, in normal times, the main sources of capital. World booms and depressions are more likely to spring from changes originating in them and carried outward, than by the reverse process. As has been indicated repeatedly by the course of events, international capital movements are likely to be mainly a phase of expansion or contraction in the major countries. We are likely to export capital at the same time that we expand investment at home. If we also attract capital, as in a major rise of the stock market, it is most apt to come from England or some other major country.

From this point of view, the problem of monetary stability appears to be one which calls in large measure for an over-all control, rather than for a compensatory mechanism operating as between countries, and to require as its main foundation effective internal monetary control in the leading countries. It ought not to be impossible in a matter of such mutual interest and serious importance to achieve, after the experiences which the nations have gone through in pursuing their own narrower ends, some community of action in monetary and general economic policy; but I must add that I am not altogether sanguine. Even without such formal co-operation, I believe that the best prospect for general stability is to be found in internal stability in the leading countries if it is intelligently, which means not too narrowly, conceived.

But it is not to be expected that economic change would or should exactly keep pace in all countries; that is far from true even in the different parts of our own country. There will always be diversity of change and of pace and character of development. There will be business cycle lags and leads as between countries. There will be crises here and there, registering their effects not only in the countries of origin but in others, and perhaps especially in the center countries. What an effective system of compromise must do is to provide slacks and elements of variability which will lessen shocks, permit monetary change to be slowed down to the pace which the economic structure can tolerate, and leave freedom of action in directing the impact and extent of change. For this purpose, it seems preferable to have some compromise, or combination of compromise systems, which, while excluding no form of variation which might be serviceable in a constantly changing world, would resort to currency variation only sparingly and when other means had failed.

THE GENERAL OBJECTIVES OF MONETARY POLICY

By JAMES W. ANGELL

RECENT HISTORY

AN INTELLIGENT visitor from Mars would inevitably conclude, I think, that in recent years Earth's citizens have failed abysmally to conduct their monetary and their general economic affairs in ways which can be defended on any detectible rational principle.

During the middle and late 1920's expansion took place on a wide front, and in nearly every country. Then ensued a general economic collapse which has been without precedent in recent decades, both for its severity and for its world-wide scope. In the great majority of important countries for which data are available, nearly all of the following changes took place between 1928-1929 and 1932-1933: both the quantity of circulating money[1] and its velocity of circulation, however measured, fell heavily; wholesale prices and industrial production also fell;[2] foreign trade fell in terms of both money volume and physical quantities; unemployment rose severely, to the accompaniment of widespread individual distress and suffering; new investment in private enterprises came nearly to a standstill; national money income declined, while the relative and commonly the absolute burden of taxation rose; and except in a small number of countries, most of which held out until 1936, the foreign exchanges depreciated against gold either *de jure* or *de facto*, and either avowedly or (as in Germany) in effect. These various changes, though they severally occurred in different degrees in different cases, were so severe in the aggregate that in almost every country their combined effects were literally calamitous. Yet the changes were not chiefly due to events originating outside the economic system, such as floods, earthquakes, crop failures, or wars. They developed within institutions which were evolved and operated by man, and which our Martian visitor might reasonably think should be subject to man's intelligent control. Explaining them to him would be embarrassing. In particular, it would probably be difficult to convince him that our monetary policies in those years had been successful, no matter how we twisted the definition of success.

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[1] Roughly, individual and government demand deposits, plus currency in circulation outside of all banks and treasuries.

[2] In a few countries, such as the United Kingdom, production did not fall very much; but there output in 1929 was already far below what could easily have been obtained without strain from existing equipment and techniques.

After 1932-1933, except in the gold bloc countries, the tide on the whole reversed itself. The quantity of money, prices, production, foreign trade, private investment, and national money incomes all rose; the velocity of money either rose or at least ceased to fall; and in most countries the foreign exchanges remained fairly stable at their new lower levels against gold. By the end of 1936, except for the gold bloc, the world had regained on the average something more than half of the ground lost between 1928-1929 and 1932-1933. This partial recovery was preceded or accompanied by monetary events and policies which were not the same in all countries. In England and certain other countries, there was a heavy initial depreciation of the foreign exchanges to a "natural" level, but one which was not attended by any serious internal monetary expansion, and which was followed by the enforcement of fair stability in the money supply, in prices on the capital markets, and in the foreign exchanges themselves. In Germany and Italy, exchange control and very large military and other governmental expenditures served to revive internal economic activity, at least for the moment, while in Italy explicit exchange depreciation has now also appeared. In the United States, where shotgun medicines have long been popular, we have had exchange depreciation, bank deposit expansion (to higher than the 1929 levels!), and again large government expenditures of a non-"normal" character. Indeed, tentative steps are already being taken here to control the next boom —a fact which might well give our Martian food for thought. In nearly all countries there has also been a downward pressure on interest rates. It may be pointed out that most of these measures, which were undertaken to promote economic recovery, can be regarded as forms of monetary policy in the broad sense now usually given the latter term.

ALTERNATIVE OBJECTIVES OF POLICY

Such has been the world's economic record since 1928-1929: a record of widespread and violent collapse, followed by a recovery which in most countries is as yet far from complete.

We need not try here to decide how far this recovery was really attributable to the measures just described, which were broadly monetary in character. In some cases they undoubtedly played a substantial part, by removing obstacles from the path of business revival, by engendering in the business community a more optimistic frame of mind, and even by themselves producing absolute increases in current money incomes (as through public works and cash relief operations). In other cases their role was less clear, and opinions on their actual effects are divided. The important thing for our present purposes, however, is the fact that these latter monetary measures do *not* constitute a rounded monetary policy which can in itself alone be satisfactory through time. They were all adopted under pressure, in order to meet severe emergencies of types which should never occur in a well-ordered world.

Instead, most students at the present day are agreed that monetary policy can and should be a continuous thing, designed not merely to meet acute emergencies but also to prevent such emergencies from appearing, and in general to keep the tempo of economic activity on as even and rational a basis as possible. The broad line of reasoning commonly adopted is roughly as follows. First, certain fluctuations in economic activity are doubtless inevitable, but their irreducible minimum is far smaller than anything we have achieved to date. Second, these irreducible fluctuations have a persistent tendency, in the modern type of economy, to degenerate into the extreme phenomena of boom and collapse. Third, monetary and banking phenomena as broadly construed commonly play an important part in this degenerative process, though opinion is again divided on how great and how inevitable that part is. Finally, an appropriate monetary policy can usually lessen the fluctuations in general activity from which we now actually suffer, and can thus prevent or at least markedly reduce the degeneration. That is, monetary policy should be planned and operated not only to deal with acute booms and collapse after they have occurred, but also to counteract as far as possible the less extreme fluctuations in which booms and collapse presumably originate, while at the same time securing continuously a reasonably full utilization of the existing factors and techniques of production.

Nearly all students, to repeat, would agree that these should be the principal broad goals of monetary policy. And nearly all would agree that a properly selected policy can do a good deal—some say more, some say less—toward actually achieving these goals. But there is an amazing diversity of opinion on just what the specific content of that policy should be. A few writers still cling to restoration of the allegedly "automatic" international gold standard on prewar lines as the desideratum; others advocate "free" foreign exchanges, in conjunction (usually) with some form of mild but persistent internal inflation; still others propose stability in general price levels, or in the effective money supply, or in money incomes per head, though they frequently pay little attention to the practical difficulties that stand in the way of attaining such objectives; and still others, perhaps more subtle in their analyses but less explicit in their recommendations, seek for compromise solutions embracing some combination of these other ends.

Are there any definite objective grounds for making a choice among the several possibilities (some of them mutually exclusive) thus far suggested? I think two considerations can be advanced which help to eliminate at least some of the alternatives, though they are perhaps not conclusive.

In the first place, as already remarked, most students are agreed that frequent and wide *fluctuations* in the total money volume of internal economic activity are undesirable. Almost any type of internal constancy, or of fairly even growth at a gradual rate, would be preferable. Fluctuations due to meteorological conditions and the like are now beyond human control, but presumably other types are not wholly refractory, and as far as possible should be eliminated. This consideration disposes of reliance upon the international gold standard taken alone. In the past, except when coupled with other control measures, it has invariably subjected the countries adhering to it to intermittent but severe disturbances not of their own making. "Free" foreign exchanges alone can likewise give no guarantee of desirable results. At best, they can only insulate a country from some—not all—of the effects of disturbances originating abroad; and in themselves they leave domestic conditions wholly uncontrolled. Hence they contribute little or nothing of a positive sort toward the maintenance of *internal* stability. The objective of constant prices may also be eliminated, when taken in isolation, because of the familiar difficulty of detecting significant impending changes in time to offset them and because price levels themselves so often seem to be an inadequate guide to general economic conditions—as in the United States in the middle 1920's or the early 1870's.

In the second place, at least in the United States, the national money income has usually moved very closely with the relative movements of the stock of circulating money in recent decades. This was conspicuously true from 1899 to 1930, and again (at a lower but likewise fairly stable ratio between the two magnitudes) after 1932. Only in 1930-1932, when the national money income fell much more in proportion than the money stock, was the parallelism seriously interrupted.[3] But changes in the velocity of circulation of money (whether exchange velocity or circular velocity) had rather *little* relation to the larger changes in the national money income. On the contrary, except in 1930-1932 circular velocity fluctuated only within rather narrow limits and around a nearly horizontal trend, a pattern of behavior which it seems to me reflects chiefly the comparative stability of money-using habits, payment schedules, and the like.[4] If we take national money income as a rough guide to the total money volume of general economic activity, it therefore seems plausible to think that an easy method for getting at the larger fluctuations in this total activity, and one not hitherto tested deliberately on any extensive scale, can perhaps be developed by controlling the quantity of circulating money itself.[5] The American evidence

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[3] For 1899-1908, see the charts (based on estimates of income made by the National Industrial Conference Board) in the N. Y. Stock Exchange *Bulletin* for January, 1937; for 1909-1932, see my *Behavior of Money* (1936), p. 145; and for 1933-1935, my article in the *Quarterly Journal of Economics* for February, 1937.

[4] See my *Behavior of Money*, Chap. V.

[5] I have outlined elsewhere one possible objective of such control: namely, causing the quantity of money to vary directly with population and (possibly) inversely with circular or income velocity; this means, roughly, stabilizing money incomes per head. See my article in the *Economic Essays in Honour of Gustav Cassel* (1933), and Chap. VI of my *Behavior of Money;* also a footnote in the last section of the present paper.

For suggestions on one of several ways of achieving this objective, see my article in the *Quarterly Journal of Economics* for November, 1935. The device there suggested is the adoption of one form of the so-called 100 per cent reserve plan. Since my position with respect to this plan has been misunderstood by some, I should like does not indicate that at most times a *major* part in the fluctuations of economic activity was played by changes in the velocity of money, or by related factors.[6] The events of 1930-1932, when the excess of the relative fall in national money income over that in money stocks was apparently attributable in the proximate sense to a large rise in liquidity preferences for money and a consequent large fall in circular velocity,[7] were unique in the history of this country since the end of the last century.

It is perhaps not even too rash to suggest that much of the decline in world economic activity between 1928 and 1933, pos-

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to emphasize that to my mind the plan *as such* has no special merit. It is quite as susceptible of abuse as are our present arrangements. But if properly set up, it does seem capable of providing a workable mechanism for stabilizing the quantity of money along some such lines as those just indicated. Despite the changes in our present banking practice which it would require, I think its adoption is preferable in practical terms to the attempt to stabilize the quantity of money through such more familiar devices as bank-rate manipulations, open-market operations and changing reserve requirements. The latter devices require skillful use of wide discretionary powers, highly trained judgment, simple courage, and accurate timing—all extremely hard to attain. It is also doubtful if discretionary action could be taken *soon enough* to forestall adverse developments before they had reached serious proportions: important changes often occur rapidly, while much statistical information comes in slowly. The form of the 100 per cent plan I have suggested eliminates nearly all discretion, and can hence be semiautomatic and positive in its action.

[6] On this, also see my article in the *Journal of Political Economy* for June, 1937, on "The General Dynamics of Money."

[7] On this period, again see my *Behavior of Money*, pp. 138, 145.

It can also be argued, I think, that the money supply did not decline still more heavily because most of the banks had become overloaded with investments, many of which they could not sell at all (such as farm mortgages) or which they could sell only at losses greater than they were willing or able to take. It can then be argued further that had the banks in fact been able and willing to get rid of their doubtful holdings, the resulting decline in the money supply would have prevented the appearance of the large volume of idle balances which actually piled up in this period, and would thus have left circular velocity not far under the pre-1929 levels in 1930-1932.

This possible line of reasoning (which I am not prepared to defend without qualification) is not inconsistent with the proposal made in the present paper, for stabilization of the money supply as a general objective of monetary policy. It can be contended that such stabilization would have prevented the development of much of the situation which gave rise to the 1930-1932 collapse in this country, and would have eliminated much of the actually self-feeding character of that collapse.

sibly more than half, could have been avoided by stabilizing the quantity of circulating money at around the 1928-1929 peaks, or (still better) by causing it to increase gradually from those peaks, say with population.[8] This suggestion is supported by data recently published by the Economic and Finance Section of the League of Nations, giving estimates of the quantity of money and its exchange velocity in nineteen leading countries in 1929-1935.[9] The data for the quantity of money are incomplete in a number of cases, and the exchange velocity figures are estimated by a very rough and indirect process, but the results are extremely interesting. In fourteen countries, the quantity of money fell as much or more than velocity to the bottom of the depression (in all but two cases substantially *more*).[10] Thereafter, in most of these countries the quantity of money rose sharply, and by 1935 had reached or passed the 1929 levels (in the United States not until 1936). But the velocity of money remained relatively low. In England velocity fell a little more than quantity, but it also remained low when quantity began to increase again. In only four countries (Greece, Hungary, Japan, Roumania) did velocity fall substantially more than quantity after 1929.

The inference is hence at least worth considering that with a different type of money and banking system, so operated that the quantity of money in the hands of the general public remained constant or was even gradually increased after 1929, a good deal of the decline in the money volume of world economic activity could have been avoided. Nor is it wholly improbable that preventing the wide declines which actually occurred in the quantity of money, with their accompaniments of self-feeding waves of liquidation and fear, would also have checked the struggle for increased cash liquidity itself, would thus have prevented at least a part of the actual fall in velocity, and in this indirect way too would have checked the decline in general activity.

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[8] See the third footnote above.

[9] *Money and Banking*, 1935-1936: Vol. I, *Monetary Review* (Ser. L.o.N.P. 1936. II.A.7^1), p. 55.

[10] The text of the League study (*ibid.*, pp. 53, 54) makes just the opposite statement at several points, despite the unmistakable evidence of the charts. I am unable to understand this contradiction.

In the balance of the present essay, I therefore propose to examine somewhat more closely certain presumably characteristic aspects of the general process of economic fluctuation, and to consider the probable effects on this process of stabilizing the quantity of money.

THE MOTIVES AND EFFECTS OF NEW INVESTMENT—THE RATE OF EXPECTATION—THE BUSINESS CYCLE

Even granted that there is something of a *prima-facie* case for stabilization of the money supply according to one of the several possible patterns, it will be argued by some that independent disturbances can still originate in other parts of the economy—as all will admit—and that these disturbances may actually be so severe as to render useless any attempt to secure stability in the economy at large through controlling merely the supply of money. The sources of such possible disturbances which are commonly cited are changes in the volume of private investment, in government expenditures and in the foreign exchanges. To these contentions no conclusive answers can be made from the data now available. Certain suggestions may be offered, however, which I hope to amplify at another time. They are as follows.

Consider first the money volume of new *private* investment;[11] investment by governments will be examined later. The money volume of today's new private investment is a function of four principal variables. The first is the net money income (above all costs) which a given money volume of today's new investment in a particular undertaking would yield, *if* all of today's important controlling conditions were continued into the future without substantial change. Given an adequate knowledge of today's cost and demand schedules and of other important factors, and granted their unaltered continuance into the future, then the net income which can be obtained in the future from a given money volume of today's new investment in a particular undertaking, by applying today's available techniques to today's resources, can be determined. As the volume of investment increases beyond some point, the cost of making new investment goods usually rises, while the subsequent probable increase in the quantity of end products of the new investment goods themselves (that is, in the quantity of new consumers' goods currently produced) will cause the prices of these end products to fall, other things equal. Therefore, what is familiar enough, as new investment continues, the income it will yield per unit declines, if production techniques and cost and demand schedules remain unchanged, and a point will eventually be reached at which any further new investment will be unprofitable. The computation of this future income and of the limit on profitable new investment may be inaccurate in fact, in any one case, because of defective knowledge. But the computation itself is entirely objective. It is governed by known or conceptually ascertainable technological and other factors, and is not influenced by expectations as to the future. We may call this income, which is determined on the assumption that present conditions remain unchanged, the *computed static income* of today's new investment.[12]

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[11] This may be defined broadly as the money outlays incurred to make net additions to plant, equipment, working capital, and the like, excluding outlays on replacements and repairs. Transactions in previously issued securities, in the spatial aspects of land, and the like, should also be excluded. A more precise definition, not needed here, is suggested in the article referred to above, on "The General Dynamics of Money."

Second, however, the investor also necessarily makes estimates of the probable future changes in techniques, demands, cost and price levels, and the like. If he is pessimistic, he will expect to encounter increased competition and falling prices for the end products of his contemplated new investment, future technical improvements which force on him a rate of obsolescence substantially greater than the rate at which his investment goods merely wear out, defaults by his creditors, and other serious difficulties. If he is optimistic he will expect that expanding markets, rising general prices and the like will more than offset possible increased competition, rapid obsolescence, and other risks. Hence what we may call his *anticipated actual income* from a given money volume of new investment may be either greater or smaller than his estimate of computed static income. The coefficient which investors currently apply to the latter magnitude, in order to estimate anticipated actual income, is the second variable governing the current money volume of new investment.

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[12] This computed static income is itself governed by: (1) available techniques, and (2) factor prices. Of the latter, materials and labor vary roughly with or after national income; taxes, and interest and rent under *old* contracts, are relatively rigid; interest rates on *new* contracts may vary in several ways, and are examined briefly at the end of the present paper. Note that interest rates are not directly relevant to issues of

Third, having estimated the anticipated actual income, the investor will apply to this latter series of quanta (which already contains his allowance for all risks) his own current rate of pure time discount (*not* the current market rate). For present purposes it is convenient to use not this rate of discount, however, but the rate of present *valuation* which the investor places today on the anticipated actual income of the future. This rate of valuation is the third variable.[18]

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equity securities, nor to the plowing back of business earnings, except so far as *prospects* for equity income are compared with current market interest rates. The results of this latter comparison will reflect primarily the current rate of *expectation*, however, which will be discussed in a moment; there is really no comparison of two or more alternative methods of receiving money income whose degrees of certainty are equal.

[18] The "anticipated actual income" of new investment is Keynes's "prospective yield": see his *General Theory*, p. 135. The valuation placed on this yield is the demand side of Keynes's "marginal efficiency of capital." The supply factor comes into our picture through the effect of Keynes's "replacement cost" on our "computed static income" from new investment. It seems advantageous to break down the compound terms with which Keynes here deals, however, and thus to secure a sharper differentiation and understanding of the controlling factors involved.

It is clear that the second and third variables are closely related, in terms of the investor's own psychology. For present purposes we shall simply lump them together, and shall regard them both as reflecting his current *rate of expectation.* When this rate of expectation is relatively high, a relatively high valuation is placed on anticipated actual income, while the ratio of the latter magnitude to computed static income is also relatively high (or rising); and so conversely.[14]

Finally, the fourth variable is the size of today's national money income. All other factors remaining constant, particularly the propensity to consume and liquidity preferences, a rise in the national money income will produce a rise in the money volume of new investment. On the supply side, the rise in national income increases the volume of funds available for new investment, without requiring any decrease in current consumption. On the demand side, it increases the market for end products, and thus raises the value of the coefficient which investors currently apply to computed static income in order to estimate anticipated actual income.

The first and last variables are in themselves objective in character, and are not influenced by changes in individual judgments about the future. The rate of expectation, on the other hand, is in itself wholly subjective. What governs the current rate of expectation?

It seems not entirely unreasonable to think that for the country as a whole today's average rate of expectation, so far as concerns new investment, is governed chiefly by the behavior of the total money volume of economic activity in the recent past, say through the preceding six months or a year (but in some cases much longer), and by the size of the individual money incomes directly or indirectly received from this activity. Now the relation between total money incomes and the total money volume of this activity presumably does not change widely in short periods. For present purposes, and as a first approximation, we therefore need deal only with the national money income, which is an easier category to handle both statistically and logically. On this basis, and putting the preceding proposition more specifically, it seems likely that it is the *rate of change* in the national money income through the more recent past which is the chief determinant of expectation. (Other less important factors also affecting expectation will be examined at the end of the present section.)

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[14] Keynes apparently does not include the time-discount factor in his use of the term "expectation," as applied to new investment; he confines expectation to the relation between our computed static income and our anticipated actual income. But time-discounts are closely and indeed inextricably related to other judgments and expectations about the future, and produce parallel effects upon the present valuations assigned to future prospects. At least with respect to decisions on making or not making new investment, it may be doubted if a "pure" time-preference for present as against future goods is ever a really separate factor. In any investment situation, the time-preference necessarily also entails some judgment—some expectation—about the future. It is therefore frequently permissible, for brevity in exposition, to combine the two sets of factors under the single term "expectation."

When income is increasing at a constant rate, on the view I now suggest as a trial hypothesis, expectation is constant. When the rate of increase is itself rising, expectation rises; when the rate of increase declines, expectation falls. When income falls in absolute terms, expectation declines still farther, as the rate of *decrease* in income accelerates; but when the rate of decrease in turn slackens off or gives way to an absolute increase, the rate of expectation rises again.[15] These suggestions seem the more plau-

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[15] That is, on this deliberately oversimplified view expectation is some function of the national money income. If the national money income fluctuated in a completely regular wave-curve, such as a sine curve, and if expectation were treated as a first-degree function of the first derivative of this income with respect to time, the curve of expectation would reach each peak and bottom a quarter cycle before income. (The problem of negative values of the derivative could be handled by adding an arbitrary constant.)

In actuality, of course, the problem is much more complicated than this. The national money income does not fluctuate regularly or even smoothly, and using its first derivative would hence be of no great help. What is required is a mathematical expression which makes expectation a function of the summarized history of this income in the recent past (and in some cases, doubtless, of the more distant past); or sible since, while the rate of increase in income is itself growing, the receivers of business profits are likely to get an increasing *proportion* of the total national income, and conversely; and it is these classes who perform the largest part of private investment.

Now an increase in today's rate of expectation as compared with yesterday's, other things equal, will increase the volume of today's new private investment as compared with yesterday's. An increase in the current volume of new investment, other things again equal, will increase the size of the national money income in the near future, though it will take time—perhaps some months—for this change to appear in full.[16] The increase in income, if it is also rapid enough to produce an increase in the current *rate of increase* in this income (or to slacken off a current rate of decrease), will in turn react upon the rate of expectation, and will raise it. Thus for a time a rising spiral may develop.

If all money costs of production remain constant, the spiral may continue to rise for a considerable time without check.[17] But actually, in all recorded cases of this sort, factor prices themselves begin to rise before long, because of the growing pressure of demand on limited stocks and production facilities. As factor prices rise, however, the computed static income of further new

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more probably, a function of the history of the *acceleration* of income through the periods suggested. The mathematics involved here are quite beyond me. I understand from Mr. Rollin Bennett, however, that an application of the theory of functional operators (probably with the use of varying weights) permits an attack to be made on the problem. I trust he will publish his methods and conclusions before long.

[16] See my paper on "The General Dynamics of Money," referred to above.

[17] On the present view expectation is governed largely by the events of the immediately preceding months. But a change in it does not produce its full effect upon income until some months in the future, and still more time will elapse before given changes in income in turn produce their full effects upon expectation. Several such "cycles" of interaction may be required before an absolute rising or falling movement in income comes to an end. Even with techniques and the quantity of money constant, it can hence be argued that any one phase of general expansion or general contraction might last several years.

investment necessarily falls because of the increasing cost of investment goods themselves, unless techniques improve. Before long this fall will offset the rise in current expectations traceable to the current effects on national income of the immediately preceding increases in the volume of new investment. Thereafter further new investment will cause the anticipated actual income from such new investment to decline. Even if techniques do improve, this turning point in anticipated income will be reached fairly soon. The improvements in techniques which are available in short periods are usually limited in scope, and while the application of such improvements may defer the turning point somewhat, it cannot postpone it indefinitely.

Once this turning point is reached, at which the anticipated actual income from further new investment begins to decline, the volume of current new investment itself will cease to expand and will begin to contract. What will be the effects of this contraction on the national money income? The answer depends on the circumstances prevailing at the time. First, to the extent that the volume of new investment still going on is financed by money which is being newly created (as by the banks), the national money income will continue to increase, other things equal, but will increase at a slower rate than before. This decline in merely the *rate of increase* of income, on the present hypothesis, will presently cause the rate of expectation itself to fall. Or, second, the current new investment may be financed by current abstentions from consumption expenditures—by voluntary saving. In that event, a decline in the rate of new investment is likely to cause an immediate *absolute* fall in the national money income, for it is improbable in the circumstances that the sums previously saved with a view to investment will now be wholly spent on increasing current consumption. Rather, the larger part of these sums will be held in idle cash balances, in the hope that a later turn of events will make investment once more attractive.

This absolute fall in the national money income, since it follows on a preceding period of increase, will likewise cause a decline in the current rate of expectation.

Thus in either case the initial decline in the current rate of investment leads to an initial decline in the current rate of expectation.[18] But the decline in expectation will cause a further decline in the current rate of new investment, even if the computed static income from such investment remains constant, because a smaller valuation will now be placed on that computed static income. The decline in new investment will then still further diminish the current rate of increase in the national money income and, as shown above, may turn it into an absolute decrease. This last is the more likely to happen, because the banks will be less and less disposed to expand when the general rate of expectation is declining. It is hence more and more likely that such new investment as still takes place will be financed either from previously idle balances of cash, or by reducing consumption expenditures.

Conceivably the decline in new investment, even if it went so far as to reduce new investment itself to zero, might merely cause the national money income to cease expanding. This would happen in the improbable event that consumption expenditures increased as investment declined, and increased by precisely enough to offset the effects of the latter decline on the national income. But the decline in expectation, arising out of the initial decline in the *rate of increase* of income, is almost certain to produce other results which will cause income itself to fall in absolute terms. First, what is probably less important, many individuals were previously making savings out of their current incomes and then more or less promptly investing the proceeds. These individuals are now likely, because of the general decline in expectation, to continue to spend less than their current incomes on consumption, but to hold the excess in idle cash balances instead of investing it. The resulting accumulation of idle cash balances entails a decline in the average circular velocity of money; and unless the quantity of money itself is increased in offsetting degree, which is not very probable in the circumstances, the decline in velocity will cause a fall in the national money income. Indeed, with allowance for the small lags involved, it *is* a fall in income.

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[18] This downturn in expectation would appear eventually even if factor prices remained constant. The reason is that on the present view the rate of expectation is governed by *changes in the rate of change* of the national money income. If the rate of expectation rises, this will increase new private investment, other things equal, and this in turn will usually increase the national money income. But the national income increases at best only in some direct (linear) ratio to the increase in expectation, whereas expectation increases with the *rate* of increase in income. Hence a point must ultimately be reached at which expectation is increasing less rapidly than the absolute increase in income. Then new investment will also begin to increase less rapidly than income; the *rate* of increase in income will hence begin to slacken; and this will cause the rate of expectation to decline.

In actuality the turning point will be reached even sooner than just indicated, because not all income is received from the production of new investment goods. The ratio of increases in national money income to increases in expectation is hence lower than it would otherwise be. Current technical improvements defer the reaching of the turning point, on the other hand, by increasing the computed static income of contemplated new investment.

Second, the decline in expectation has another effect which is perhaps even more significant than its effect upon new investment, and one which is frequently overlooked. This decline causes business firms to reduce the volume of their "ordinary" business commitments for the immediate future (quite apart from their decisions on the matter of new investment), and to shift part of their assets from other forms into cash. This is the operation which I have described elsewhere as business hoarding.[19] When a business firm takes a more pessimistic view of the future than before—when its current rate or level of expectation falls—it will seek to sell off stocks without fully replacing them, to reduce the current scale of its operations, to defer a part of its maintenance and replacement operations, to refuse doubtful orders, and in general to build up its cash position. These changes need entail no alteration in the total money (book) value of the firm's assets, and, on the definitions adopted in the paper just referred to, they also really involve no new saving by individuals. But since idle balances of cash are being accumulated at least temporarily, the circular velocity of money will fall, other things equal; the current money volume of employment will decline, as will the volume of orders for materials and equipment; so far as the idle balances are later used to repay bank loans, the quantity of money itself will also decline; and again the national money income will fall.

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[19] In the article on "The General Dynamics of Money," referred to above.

To summarize the last few paragraphs, the initial decline in the rate of increase of the national money income thus leads to a decline in the current rate of expectation. The decline in expectation, in turn, leads fairly promptly to a decline in new investment, which as a rule further diminishes the current rate of increase in income and in some circumstances transforms the current increase into an absolute decrease. The decline in expectation is also likely to lead to some increase in the balances of idle cash held by individuals, and if it continues is sure to lead to new business hoarding—to an increased holding of idle cash by business enterprises, and perhaps to a contraction of the money supply. Both of these last two changes work to cause an absolute fall in the national money income; indeed, other things equal, they *are* a fall in income.

No attempt will be made here to appraise the relative importance of declining investment, individual hoarding and business hoarding in producing these secondary changes in income. They are more or less simultaneous results of the initial fall in expectation, and their relative importance may vary in different situations. It should be noted, however, that in each case fairly substantial lags intervene between the appearance of decreased investment or increased hoarding and the full development of the resulting effects upon the national income. These lags may be a number of months in length.[20] There is also likely to be a substantial lag between the first appearance of a deceleration in national money income and any important resulting change in the general rate of expectation. The adjustment processes as a whole are hence far from instantaneous; they usually require substantial periods of time to work out.

The absolute fall in the national money income, when it appears, will in turn produce a further contraction in current expectation and new investment, and a further rise in idle balances (often followed by a fall in the quantity of money). Thus a *downward* spiral will get under way. Even apart from any decline in the aggregate quantity of money itself, the decline in the national money income may proceed in extreme cases until new private investment is nearly zero, and the size of "hoarded" idle balances very large. As long as the size of idle balances is increasing (and provided the volume of new investment continues to fall or even remains merely constant), the national money income will continue to fall. If idle balances increase in size *at an increasing rate,* the national money income will also fall at an increasing rate, and hence the current rate of expectation will fall too. But if idle balances increase in size at an increasing rate for very long, clearly all economic activity that is conducted with money must cease. In the entire course of recorded history, this has never happened: no money-using society has ever hoarded itself out of existence. Hence a point will eventually be reached at which the rate of increase in idle balances (and hence the rate of *decrease* in the national money income) slackens off—partly, no doubt, because as money incomes fall many individuals start drawing on their idle balances, in an attempt to maintain their current purchases of consumers' goods. This slackening will cause a modest *increase* in the rate of expectation, relative to its immediately preceding level. On the present hypothesis this in turn, and even apart from any current technological improvements, will check the current increase in idle balances, will induce some utilization of previously idle or hoarded individual and business balances, and will stimulate a gradual revival of new private investment.[21] Then the expansion phase of the quasi cycle will get under way again.

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[20] *Ibid.*

Here, then, are the outlines of an hypothesis which will account for large and protracted swings in the total money volume of economic activity and in the national money income: swings which, if not controlled, are self-generating for a time first in one direction, then in the other, and which can perpetuate themselves indefinitely.[22] It is also an hypothesis which leaves room for the observed marked irregularities in duration and amplitude of such swings—that is, for the actual characteristics of what are loosely described as business cycles. These irregularities can be explained in part, for example, by such factors as wars, crop conditions, major political shifts, the irregular incidence of technological improvements,[23] and changes in the quantity of money. The latter changes influence expectation in most cases and may alter the computed static income from new investment by affecting interest rates.

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[21] Merely buying into old enterprises at bargain prices is not *itself* new "investment," of course, under the definition given above. But a state of mind in the general public which is favorable to such operations is also likely to be the forerunner of genuine new investment, since it usually implies a rise in current expectations.

[22] Doubtless other mechanisms leading to swings of this type, and ones which likewise turn on changes in the rate of expectation, are also in play. For example, changes in expectation and in liquidity preferences probably have some effect on expenditures on consumers' goods (doubtless more slowly), though for most people such expenditures are probably more largely controlled by the size of incomes. And there are other mechanisms which in themselves do not necessarily involve expectation at all, such as the familiar relation between changes in primary and in "derived" demands.

[23] I doubt that changes in the rate at which technical improvements and inventions are applied are responsible for initiating wide and persistent *fluctuations* in economic activity. In the main, an increase in this rate merely alters the duration of an expansion or contraction previously started by other factors, and lifts the economy (other things equal) to a permanently higher level of physical output. But if such changes in the rate of application are in fact related in important degree to the phases of the business cycle, which I think has not yet been adequately demonstrated, then they do affect the cyclical pattern—probably by reducing the valleys, and possibly by prolonging a little the expansion phases.

THE DETERMINANTS OF EXPECTATION; OF LIQUIDITY PREFERENCES —THE RATE OF INTEREST

The hypothesis of general economic fluctuations sketched in the preceding section rests chiefly on the relations between the national money income, expectation, new investment and the volume of hoarding. Certain additions should be made even to a sketch as brief as this, however, chiefly with respect to the determinants of expectation and the rate of interest, and with respect to the factors that govern liquidity preferences.

First, expectation. In the foregoing argument the rate of expectation was treated as being solely a function of the general history, and especially of the history of the acceleration, of the national money income through the fairly recent past. This view is correct, I think, with respect to the largest part of the sources of the great majority of the actual changes in expectation. As suggested elsewhere, however, other factors such as wars, floods, earthquakes, and especially the repercussions of sudden wide changes in security prices, may also influence expectation from time to time. For example, the 1929 stock-market break can be ascribed in part to the diminishing rate of increase in the national money income, output and the like, and to the beginnings of an absolute decline, in the immediately preceding months. These latter changes undoubtedly worked to lower current expectations. But the technical peculiarities of the stock market itself at that time (chiefly the large volume of undermargined accounts), and the appearance of a brief but acute panic psychology, made the initial decline in security prices larger and more rapid than was justified on any rational basis by the current changes in the national money income. The decline in security prices then intensified the current decline in expectations, and this in turn aggravated for a time the decline in securities. A market recovery took place in early 1930, however, and thereafter the declines in security prices were more nearly in line with the declines in the national income. In general, I think, the significance of wide changes in security prices lies not so much in their effects upon those individuals and firms who have actually traded at the reported prices—since for every seller there is a buyer—as in their sometimes disproportionate influence upon the current expectations and hoarding propensities which are then applied by these and other firms and individuals to *other* contemplated new investments, and to purchases of consumers' goods. Changes in security prices, however, are usually important *independent* sources of disturbance only relative to short periods, and only at certain times. In the main, changes in these prices are rather a reflection of the other factors already discussed, chiefly of expectations based on changes in the national money income in the recent past and, to a less extent, on prospective applications of improved techniques of production.

Expectation is thus not simply a given datum in the situation. It depends, in an intimate though complex and doubtless varying way, on many of the things that have previously happened in the society, and on what people think about these prior happenings. The hypothesis of economic fluctuations outlined in the preceding section therefore rests fundamentally on an assumption—necessarily too simple, but nevertheless usable in a broad preliminary study—as to the nature of this inescapable relation between expectation and observation.

It is also obvious, however, that the concept of "the general rate or level" of expectation is loose, and must be unsatisfactory for many purposes. Expectation changes at different times and degrees for different individuals and groups. Some individuals and groups change their expectations in advance of the general average, while some lag behind. And expectation is likely to be different in different fields of application. Long-term expectation may be quite unlike short-term, as Keynes has shown;[24] expectation with respect to equity stocks may be unlike that for real estate or bonds; and so on. No attempt will be made here to analyze these differences and their interactions. It may be suggested, however, that the fields of major importance are expectations with respect to these four things, which are interrelated but different:[25] the total money volume of business, the volume of business profits, the security of the principal of different types of placement of investible funds (which is "investment" in the popular sense), and the future course of interest rates. Each field must also be subdivided at least once, into immediate and more remote expectations.

Second is the problem of liquidity preference.[26] Although all students must be indebted to Keynes for his provocative discussion of this problem, I do not believe his propositions are wholly satisfactory. This conclusion follows from the discussion of idle balances in the preceding section, a discussion in which the concept of liquidity preference was implicit, though use of the term was avoided at that point to prevent confusion.

In Keynes's view, liquidity preference "fixes the quantity of money which the public will hold when the rate of interest is given."[27] In graphic terms, the rate of interest and the quantity of money are the two axes of the liquidity preference curve. But is the problem as simple as that? I doubt it.

The grounds for this doubt become clear if we consider the actions and choices, in various phases of the trade cycle, of some of the groups whose preferences for holding assets in the form of money rather than in some other form are important.[28] To illustrate, take three groups: ordinary business firms, potential individual investors, and lenders—who may also be included in the first two groups. When business is expanding rapidly and when expectation is hence high, the average business firm will commonly use as much of its assets as possible in its own activities, and may well secure additional funds from outside. That is, it will convert any previously idle balances of working cash (above minimum contingency reserves) into inventories, replacements and the like, which is "business dishoarding"; will plow back earnings; and may borrow or issue new stock in order to make new investments in its own business. In this reduction of idle balances, the most important factor is clearly the rise in the firm's expectations with respect to its own volume of business and its own equity profits. It is not itself *making* loans in the market, and the market rate of interest is at present of little concern to it except so far as it borrows, and hence has to treat the interest rate as a cost.

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[24] Also see the analysis by Dr. A. G. Hart, in the *Quarterly Journal of Economics* for February, 1937.

[25] To use an extreme illustration, the anticipation of severe monetary inflation leads to the expectation of a rising *money* volume of business and of rising money profits and values for equities, and to a flight from idle cash.

[26] I am indebted to Mr. Moses Abramovitz and to Mr. Rollin Bennett for helpful suggestions on the treatment of this problem.

[27] *General Theory*, p. 168.

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[28] The concept of liquidity preference should really be applied, much more broadly, to each step in the whole range of assets graded according to their liquidity—that is, according to the probability that the given asset can be exchanged promptly if desired for another of higher "liquidity," at a known or ascertainable price. Under certain circumstances, for example, a fall in general liquidity preferences due to rising expectations may produce a shift by security-holders out of interest-bearing assets into equities, with a resulting fall in the market prices of the former and a consequent *rise* in market rates of interest—even though the total supply of money and the aggregate size of idle cash balances remain substantially constant. This seems the simplest explanation of the "Gibson paradox." Compare Robertson's remarks in the *Quarterly Journal of Economics,* November, 1936, p. 180.

Conversely, when general liquidity preferences rise, an increase in interest rates is far from the only alternative to an increased hoarding of money. Thus some security-holders may shift from equities to interest-bearing securities, with an unchanged or even a falling market rate of interest, while the decreased price of equities may induce the sellers of interest-bearing securities to purchase such equities instead of hoarding cash. Here any actual increase in hoards of cash may be at most only temporary. Keynes's discussion of this question hence seems far too restricted. See his *General Theory, passim,* and also his article in the *Quarterly Journal of Economics* for February, 1937, p. 211.

At the other extreme, when expectation is falling sharply, the firm ceases expanding and engages in the business hoarding referred to in the preceding section. That is, so far as possible it sells off inventories without replacing them, defers maintenance operations and the like, and in every way seeks to build up its cash position. Again the most important factor in this process is clearly the decline in the firm's expectations. It is true that some of this idle cash may then be loaned out in the market, or placed in other types of securities. If the firm's decline in expectations relates not merely to its own affairs but also to economic activity in the country at large, however, the very decline in expectations will itself make the firm view with suspicion the added risk incurred by lending to others. It is hence unlikely to lend out more than a part of the increase in its idle cash, and may well put this part chiefly in governmental rather than in private obligations. Moreover, if expectation is falling throughout the country, borrowers are becoming fewer, the firm's attempts to find loans is likely to force down interest rates, and any decrease in idle cash that does take place is hence likely to be associated with declining rather than rising interest rates—though this is not necessarily contrary to Keynes's propositions. Finally, the firm may well use some of its additional idle cash to repay any bank loans it has outstanding, thus reducing the quantity of money.

For the ordinary business firm, then, the chief component of the vertical axis of the liquidity preference curve is expectation.[29] The market rate of interest plays only a small part, and if taken in isolation (with a given state of expectation) would probably produce a quite inelastic curve of liquidity preference. If the firm is plowing back earnings, the computed static income on such new investments (to which the firm's current rate of expectation will be applied) also plays some part in governing the size of the balances of cash which it holds currently idle. For the horizontal axis of the curve, it is probably easiest to use the *per cent* of the aggregate money stock which is currently held in idle balances.[30] This selection of factors for the axes avoids the awkwardness of having to shift the curve to right or left whenever expectation changes, as Keynes's procedure really requires, or whenever the size of the money stock changes, as would be necessitated by certain other possible selections.

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[29] Let the expectation that present conditions will continue unchanged into the future be taken as 100. Then the graduation of the scale for expectation taken alone reads up from zero at the bottom, with 100 marked off part way up the scale. The liquidity preference curve is probably somewhat less than unitary in elasticity, so far as it is governed by expectation. When expectation is zero all money is held in idle balances, and economic activity so far as conducted with or for money necessarily ceases. When expectation is very high, as in a severe inflation, idle balances are near zero. But when monetary conditions are reasonably stable, there is some evidence to suggest that even at the peak of the business cycle idle balances never fall below perhaps 15 per cent of the aggregate supply of money. See my *Behavior of Money*, Chap. V.

For the potential individual investor, who is directly or indirectly purchasing net additions to capital equipment and the like, somewhat similar considerations apply. When he receives a given block of money income, he can either spend the income on consumption or on new investment, or he can hold it in idle balances. His choice is determined chiefly by his expectations and, what usually plays a smaller part, by the computed static income from contemplated new investment. If his expectation is high, he will invest all or most of his current surplus above whatever minimum contingency reserves he holds in any event. Here lending at the market rate of interest is only one among many ways of securing an income, by the purchase of securities and the like, from which he may choose; and indeed, as shown below, lending is not itself "investment" in the proper sense. His expenditure on consumption may also increase somewhat, though changes in this expenditure are governed more by changes in income actually received than by changes in expectation. Conversely, if his expectation falls he will reduce his current rate of new investment, perhaps to zero, and will accumulate cash. He may also reduce his consumption expenditures. Here the market rate of interest is again not an important factor. Because of the low state of his expectation, even a high market rate is not likely to diminish very much his holdings of idle cash balances.[31]

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[30] This is the term *b* in my paper on "General Dynamics," referred to above. The horizontal scale then reads from zero to 100.

Finally, lenders as such are in a somewhat different position from either of the first two groups. Lenders are not themselves investors in the proper sense. Investors are those who buy net additions to capital equipment and the like, with a view to making equity profits. Lenders merely supply, on occasion, a part (sometimes all) of the necessary funds; they do not themselves buy equipment. For lenders, expectation hence relates to the security of the principal and to the course of interest rates (for them expectation is here high when interest rates are expected to *fall*, since the fall will raise the market value of the loan if sold or rediscounted before maturity). So far as the potential lender's choice is between lending and holding idle cash, the vertical axis of his liquidity preference curve has two components. One is again expectation, with an important part therein played by some function of the reciprocal of expected interest rates. The other component, presumably much less significant, is again the absolute height of present market interest rates.

Two other comments should also be made on the lending operation. First, it is clearly necessary to deal only with net changes in lending for the society as a whole, and to make sure that a given loan is not merely a transfer of the lending function from one group to another. Second, when the lender is a bank, the making of net new loans and investments increases the quantity of money, other things equal, while repayments or sales of securities decrease it.[32] This fact complicates the general analysis, since changes in the quantity of money change the expectations of nonbankers or the size of their idle balances, or both. It is not a fact running counter to the broad lines of the preceding argument, however. So far as they are operating on the basis of the ordinary commercial motives, the banks usually increase their commitments as expectation in the country at large rises, and conversely.

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[31] When general expectation is falling, the holders of securities are likely to force them on the market in order to get into cash, thus pushing the market rate of interest up at first. But when such sales are ended, rates are likely to drop below their former levels, because of the scarcity of would-be borrowers. In each case the change in interest rates is merely a symptom, a result, not an important source of further new changes.

For the country as a whole, the *relative* size of idle balances of money thus varies chiefly as some function of expectation, and to a smaller and probably less elastic degree as a function of market rates of interest (and to some extent of earnings on other types of securities). The computed static income from contemplated new investment also plays a part. The liquidity preference curve for money expresses these relations.[33] The general position and shape of the curve relative to the two axes are determined chiefly by payment habits and the like, on the one hand, and by general habits of thrift and the available techniques of production on the other. In a given general state of expectation, the prevailing habits of thrift and the expected profitability of applying available techniques of production to new investment determine how much of a given total money income shall be spent on consumption,[34] how much on new investment, and how much on building up idle balances of cash. Payment habits and the like determine the relation of changes in the quantity of "active" (nonidle) money, whether these changes be a result of prior shifts in expectation or of governmental operations, to changes in the national money income. They thus also determine the extent of the further or secondary changes in expectation, which will be produced by the initial changes in the national money income itself.

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[32] For the banks, the horizontal axis of the liquidity preference curve should perhaps measure the size of unused lending capacity relative to the maximum attainable volume of earning assets.

[33] Or liquidity preference can itself be regarded as a function (inversely) of expectation, market rates of interest and computed static income.

Other liquidity preference curves can also be drawn for each individual or group with respect to each type of asset other than money, expressing the holders' preferences as between this type of asset and the next less liquid type.

[34] This is consistent with the accepted view that consumption usually varies with income, but by less than equal absolute amounts.

The preceding sketch of liquidity preference is thus substantially more complex than the outline given by Keynes, but I believe it is also closer to reality. On the view here outlined, in contrast to Keynes's position, changes in interest rates play only the smaller role. As already remarked, the chief factor is the current rate or level of expectation, which makes individuals and firms desire to hold currently idle balances of cash of a given relative size (relative, that is, to the size of the aggregate money stock). The current market rate of interest is only one among a number of factors which come into the calculation, and is ordinarily not the most important. The principal choice made is usually not the choice between holding cash and earning the market rate of interest by surrendering cash. It is the choice between holding cash and, by surrendering cash, surrendering that safety with respect to the principal sum itself which cash is believed to provide. As a rule, that part of idle balances which will fall as market interest rates rise is only the smaller fraction of the total of such balances.

Finally, the rate of interest itself must surely vary both with the supply of funds available for lending, and with the demand for such funds. The supply can be increased either by decreasing current consumption, drawing down idle balances of cash, or creating new money for the purpose. The demand for such funds varies with the rate of expectation, with the computed static income from new investment (I do not see how an intelligible account can leave no place for productivity!),[35] and again with the quantity of money. If I may indicate here merely the end results of a rather long analysis, I therefore conclude that the market rate of interest varies *positively* (1) with the computed static income from new investment, (2) with the current rate of expectation (but less than proportionately), and (3) relative to periods of a number of months—say the expansion phase or the contraction phase of "the business cycle"—with the quantity of money. It also varies *inversely* (4) relative to short periods of say a few weeks, in certain situations where solvency is under severe pressure, with the quantity of money. The relative importance of these several factors cannot be estimated here.

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[35] I quite agree with Robertson's general view here: see the *Quarterly Journal of Economics*, November, 1936, pp. 177 ff., especially p. 182. Also see the criticisms of

When Keynes relates the rate of interest only to liquidity preferences and the quantity of money,[36] he attempts to leave productivity wholly out of account. As just remarked, this seems to me impossible. He is also in danger of circularity. Surely the banker, in granting a new loan which will add to the total of all deposits, pays some attention to the going rate of interest, and may himself depart from this rate! Actually there is interaction, and simultaneity of relations. Finally, when Keynes says that there is an inducement to push new investment to the point at which the marginal efficiency of capital is approximately equal to the rate of interest,[37] he is at least formally guilty of leaving a large part of new investment out of the picture, perhaps the larger part. Only governments obtain all their new investment funds (other than those coming from tax proceeds or the printing press) at interest. Private firms obtain funds partly in this way, but partly through selling ownership participations, and partly by plowing back earnings. The rate of interest is related only rather indirectly, and far from uniformly, to the two latter

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Keynes's position by Professor Landauer in the *American Economic Review* for June, 1937.

[36] *General Theory*, pp. 167, 168.

[37] *Ibid.*, p. 248 *et passim.*

types of operation. The current market rate of interest doubtless sets a limit: equity investments will not be pushed so far that the anticipated return on them falls below this market rate. But because of the differences in risks, and for other reasons, it seems improbable that equity investments (in the proper sense of the term "investment") will actually be pushed to this limit, unless momentarily. Because of changes in expectation, their relation to the limit also varies.[38] These considerations bear rather seriously both on the analysis of new investment itself and on the formulation of programs for monetary and general economic control, so far as these programs entail any use of interest rates.

OTHER FACTORS AFFECTING NATIONAL INCOME—GOVERNMENT EXPENDITURES—THE FOREIGN EXCHANGES

The preceding argument, of course, is not meant to imply that changes in the volume of new private investment are solely responsible for initiating changes in the national money income. Past voluntary savings previously held in idle balances may now be spent on consumers' goods, not merely on investment goods, and in either case will increase the current national income. The volume of government expenditures may also vary substantially, whether through changes in governmental investment or relief operations or in other ways, and this too (other things equal) influences national money income. Finally, the foreign exchange situation may alter, and may thus introduce disturbances originating outside the given economy.

Only two comments need be made here on government investment. First, the motives for such government investment are obviously different in their proximate character from those controlling private investment. Although changes in the rate of (private) expectation may have produced the situation which now makes government investment seem desirable or necessary, profit-making is usually not the goal, and the rate of expectation itself is hence not *directly* relevant to changes in the volume of government investment. The quasi-cyclical analysis outlined above also does not apply, except quite indirectly. Second, however, the *effects* of governmental investment in increasing the national money income are precisely the same in general character as those of private investment. So far as the previous rate of change in the national money income is altered by government investment, the private rate of expectation also changes. The same considerations apply to government relief operations and the like. Hence there is point in using government outlays of all kinds, as far as possible, to offset disturbances originating in other parts of the economy; on these familiar propositions most students are agreed. To the extent that the adoption of other measures such as stabilizing the quantity of money diminishes the fluctuations in the total money volume of economic activity, however, the need for such manipulations of the quantity of governmental outlays will decrease to correspond.

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[38] Also see footnote 12, above.

The problem of the foreign exchanges is of a somewhat different order. If all countries successfully stabilize their internal monetary conditions, the foreign exchanges will perhaps not remain steady, but apart from short-period fluctuations they will move only rather gradually, and only in response to persistent unidirectional changes in relative international demands for goods and capital. In the absence of such universal internal stabilization, on the other hand, it will from time to time be necessary for countries to choose temporarily between internal and external stability. The choice should always be for internal stability, once the country has adopted an effective practical policy for achieving this end;[39] but a limited degree of short-period internal fluctuation should also be permitted when necessary, to leave room for a certain amount of control over short-period disturbances in the foreign exchange situation. In practical terms, this means that the foreign exchanges should not be pegged permanently at any one level (as by establishing a permanent mint par against gold), but that they should also not be allowed to fluctuate entirely without restraint. By means of forward dealings, open-market operations in spot exchange, and perhaps minor interest rate changes, the central authorities can keep exchange rate fluctuations confined within fairly narrow limits *relative to short periods* (say, fluctuations of only plus or minus one or two per cent in any period of perhaps three to six months). They can thus provide sufficient stability and certainty as to the immediate future to permit untrammeled international commodity and capital transactions,[40] without at the same time encouraging or even allowing unduly heavy speculation in the foreign exchanges themselves.

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[39] Thus *at the present time* (early 1937) many countries would instead do better to go back to stable exchanges or even to the international gold standard for a period, as a transitional step to internal monetary stability—which few countries except England

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and the Scandinavian group have even remotely approached in the last two or three years. But in some cases, such as the United States at present, exchange stabilization would probably contribute little *in itself alone* to internal stability, because of the vast cushion provided by surplus gold holdings and excess reserves. This is further evidence of the frequent inability of the gold standard to provide internal stability without other support.

[40] It would probably also be desirable to require that "long-term" international capital movements should give rise to claims and obligations payable, as far as possible, only in the currency of the debtor. By increasing the creditors' risks, this would greatly decrease the likelihood of ill-advised or merely excessive foreign investment. As to short-term movements, it might be well to require both central and commercial banks to cover all deposits payable to foreigners by equivalent amounts of foreign exchange, balances or ear-marked gold—except that uncovered holdings might be permitted to the banks as a whole, under some prorating system, in an amount rather smaller than what is judged sufficient to absorb the "normal" seasonal fluctuation in the commodity and service items. This would eliminate much of the present dangerous and erratic flow of short money between countries in response to motives of speculation or panic, while it would not interfere materially with the commercial exchange of goods and services or with the adjustment of short-period disequilibria in the balance of international payments.

CONCLUSIONS ON MONETARY POLICY—THE STABILIZATION OF THE QUANTITY OF MONEY—OTHER MEASURES

The preceding factual materials and speculative analyses have necessarily been sketched in most summary fashion, but their implications for monetary policy are fairly clear. The most important conclusion concerns the stabilization of the quantity of money.

It has *not* been argued here that stabilizing the quantity of money will end all fluctuations in the total money volume of economic activity. Even if the quantity of money were kept stable, and even if everyone were convinced that it would remain stable, still it is probable that expectations, hence the size of idle balances and the velocity of money, and hence the total money volume of economic activity, would shift rather widely from time to time: for example, in consequence of changes in agricultural productivity, or in industrial techniques, or because of events external to economic activity in their proximate origins, such as floods, earthquakes, or war. It is also possible that these shifts in expectation, by action and reaction with the money volumes of new saving and investment, with the national money income, and hence again with the current rate of expectation, would produce an indefinite series of quasi cycles analogous to those which, in hypothetical terms, were described above.

But it seems to me almost certain that if the quantity of money were kept reasonably stable, these remaining and perhaps irreducible quasi cycles would become relatively small in size, and would hence be of secondary importance. The criminal characteristic of the money and banking systems that have hitherto existed in nearly all modern countries is that they have been inherently unstable within wide limits, and that they have usually worked to *intensify* fluctuations in both directions rather than to damp them down. In so-called good times, when the total money volume of economic activity is increasing, most money and banking systems also greatly increase the quantity of circulating money; indeed, this is one of the favorite ways of augmenting the current volume of new private investment rapidly. But the increase in the quantity of money, if regarded by the business community as "normal," is itself likely to intensify the changes which are already under way. To list only a few of its effects, it causes or permits greater increases than would otherwise take place in the current volume of new investment, in the national money income, and hence (in the earlier and middle stages of expansion) in the rate of expectation, and greater decreases than otherwise in liquidity preferences; and it keeps interest rates lower than they would otherwise be, thus holding the computed static income of current new investment higher than otherwise. It therefore defers the time at which the factors previously considered will bring a halt to the current expansion in the *money* volume of activity, and probably also increases the current misdirection of resources.[41] Moreover, as inventories fall and as resources approach full utilization any further increases in money will merely raise prices, without increasing real output substantially, and are also likely to alter the distribution of incomes in undesirable ways.

All this taken alone might not be a conclusive condemnation.

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[41] For example, the increased quantity of money available may be used to finance greater volumes of investment and employment in certain directions (and hence to yield ultimately a greater output of consumers' goods) than would otherwise develop *in those particular directions*, and which cannot be maintained indefinitely in those directions. This will occur if the injection of new money produces a pattern of current new investment which is not parallel to the current pattern of the relative demands for the things the new investment will produce. If such maladjustments appear, presently expectations will fall in the industries directly affected, the national volume of employment will fall (since resources cannot be shifted instantly to other uses), and a change in the total volume of activity will develop which is greater than would have been the case with an unchanged money supply. It is in this conjunction, I think, that the analyses given by Professor Hayek in his *Prices and Production* find their greatest usefulness.

It is also interesting to see Keynes adopting something that looks very much like this part of Hayek's position, in a recent discussion of his own Multiplier: *Quarterly Journal of Economics*, February, 1937, p. 220.

But if expansion does at last cease, and gives way to the beginning of contraction, the money and banking system suddenly turns about, and now intensifies the general *fall.* As bank investments are sold and as bank loans are called or allowed to run off, the quantity of money declines; this decline and the circumstances out of which it arises engender new fear, and accentuate the fall in expectation and the rise in idle balances of cash which are developing anyway; the growing struggle for business solvency compels many liquidations of inventories and other holdings, which further increases the banks' desire to reduce their commitments, and thus further contracts the quantity of money; and thus a downward spiral of interactions is initiated. Once well under way, as is only too familiar, the decline can go to disastrous lengths before it is checked.

Surely it is not merely naïve to think that stabilizing the aggregate quantity of circulating money at the high levels which prevailed during the boom would lessen, though it could not wholly prevent, this self-feeding process of contraction. Stabilization of the quantity of money would cause loanable funds to pile up as business slackens and would at once press down on interest rates, thus affecting the computed static income of new investment favorably; it would lessen the desire or even need of lenders and investors to call loans, sell assets and get into cash; and it would hence greatly moderate both the depth and probably the duration of the general contraction. Stabilization would prevent that part of the decline in national money income which appears if the *quantity* of money falls while its *velocity* remains constant, and it would materially lessen that part of the decline which is due to an increase in the relative size of idle balances of money and the accompanying decrease in velocity itself.

In other words, on this view stabilizing the quantity of money[42] will remove what seems from the statistics cited earlier to be the largest single source of the present wide *fluctuations* in the national money income, hence in expectation, idle balances and new investment, and hence again in national money income.[43] It will thus choke off the largest part of that curious process by which modern economies alternately first try to lift themselves by their own bootstraps and then, in seeming despair at their inevitable failure, turn autophagous. Moreover, by reducing the present wide fluctuations in activity, stabilization will increase the average degree of utilization of resources, and will thus permanently enlarge average real output and average welfare.[44]

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[42] My chief concern here is with removing large and relatively abrupt *fluctuations* in the quantity of money. The quantity of money per head should also be kept from falling, however; and changes in payment habits lasting over periods of some length,

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say a year or more, should probably also be offset if ascertainable (this is the term *d*, in my article in the *Quarterly Journal of Economics* for February, 1937). If population is increasing only very slowly, it may likewise be desirable to increase the money stock, year by year, rather more than in proportion to population, say in a total amount of 1.5 or 2 per cent a year. I am not as certain now as formerly about the desirable long-term trend of the money stock. It is possible that, for substantially the reasons indicated in Keynes's *Treatise*, a policy of very mild but steady "inflation" may on balance be the best.

[43] It has been suggested by some that stabilizing the quantity of money will merely intensify the fluctuations in its velocity: see the review of my *Behavior of Money* in the *Journal* of the Royal Statistical Society, 1936, p. 799. This cannot be disproved at present, any more than it can be conclusively demonstrated that stabilizing money will reduce the cyclical fluctuations in business. But the available statistical evidence, together with the preceding discussion of the presumptive effects of large and rapid changes in the quantity of money, strongly indicate that the gamble of stabilization is very much worth trying.

Robertson has also asserted that the policy of stabilization is inconsistent with the main factual conclusion of my *Behavior of Money* that the quantity and velocity of money move with or after other indices of economic activity rather than before them: see his review of the book in the *Economic Journal* for June, 1937. I am unable to agree that there is any such inconsistency. On my view, the present wide changes in the quantity of money *intensify* fluctuations in general economic activity which have already originated elsewhere. To believe that stabilizing the quantity of money would eliminate this particular source of intensification, however, surely does not require one to believe also that changes in the quantity of money *originate* general fluctuations.

[44] It would clearly be desirable to wait before stabilizing the quantity of money, however, until the utilization of resources is fairly near the practicable maximum. Up to that point, increases in the quantity of money are defensible if they do not run much ahead of current increases in the degree of utilization, which can be measured roughly by physical output. On this view, the increase in money in the United States after 1933 was far too rapid.

But it is also clear that no monetary policy can insulate the country against the effects of large and protracted central government deficits: the nation is sovereign.

At the present time many students, particularly those under the influence of Mr. Keynes, are disposed to stress the importance of shifts in liquidity preferences as a major source of fluctuations in general economic activity. On the view here suggested, however, shifts in liquidity preference are not an important *independent* factor in the situation. Rather, they are in the main caused by current shifts in expectation. They are hence chiefly products of the economic history of the society in the immediate past, and especially of the recent accelerations in the national money income. In considerable part, on the present view, they are therefore themselves ultimately caused by prior fluctuations in the quantity of money. If fluctuations in national income can be reduced by stabilizing the quantity of money, then fluctuations in liquidity preferences will also be reduced in considerable measure, and a still higher degree of stability in general activity will result.

A word may likewise be added on Keynes's recent proposal to use control devices in order to keep the aggregate volume of new investment higher than it would otherwise be, *even in good times*—as contrasted with proposals to use such controls merely to offset declines in general activity. Keynes is right in his desire to keep interest rates low;[45] and certain advantages which he emphasizes would undoubtedly flow from a permanent increase in the average volume or rate of new investment. So far as his proposals require persistent increases in the quantity of money at rates more rapid than those suggested above, however, and unless the present character of the money and banking system is substantially altered, these increases in money are likely of themselves to engender alternating overexpansions and overcontractions in the total *money* volume of activity, and hence on the average to leave us little better off than before.

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[45] All other things equal, a lower level of interest rates means more investment and ultimately a higher average real income. *Fluctuations* in interest rates, other things again equal, lead broadly to inverse fluctuations in economic activity, and can be condemned on the same grounds as the latter.

The principal conclusion to which the present paper leads is thus one which I have expressed on other occasions, but which is now reinforced by additional factual and analytic material. This conclusion is that the primary objective of monetary policy should be to stabilize the quantity of circulating money within each country according to some reasonable pattern, with wide short-period *fluctuations* eliminated (and with a recognition that in time of war or other national emergency all "ordinary" rules, whether gold-standard or others, may be swept off the board).[46] I believe that successful enforcement of this stabilization will eliminate a considerable part, and probably the larger half, of those wide fluctuations in the total money volume of economic activity from which nearly all highly developed economic societies now intermittently suffer.

In addition, as secondary objectives, the central authorities should exercise a limited control over the foreign exchanges, in order to enforce a fair degree of *short-period* stability in the exchange rates; and they should also vary the volume of governmental investment and relief operations (so far as is consistent with stabilizing the quantity of money), with a view to counteracting such fluctuations in economic activity as are not eliminated by stabilizing the quantity of money and the exchanges. Adoption of these policies will perhaps not inaugurate the economic millenium. But by greatly reducing those fluctuations in economic activity which arise out of the peculiar character and operation of our present money and banking system itself, it will greatly increase the average degree of utilization of resources, and will thus increase at least equally the average general welfare.

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[46] The central bank should probably also be given a *small* fund, with which to smooth minor fluctuations in the central money markets.

MONETARY POLICY IN THE UPSWING

By ALVIN H. HANSEN

THROUGHOUT the world-wide depression monetary and fiscal policy has played a role never before equaled in the history of modern capitalism. Much scientific work remains to be done to sift out the residue of new knowledge about monetary techniques and controls which this extraordinary laboratory has afforded.

Currently, we are immersed in the upswing phase of the cycle, and we are compelled to grapple with the no less difficult problems to which it gives rise. Certain it is that we shall never achieve reasonable economic stability unless we learn to master the boom. For the boom is the progenitor of the depression.

By "boom" I mean specifically a rate of progress in capital accumulation—progress in the net addition to wealth consisting of the construction of new capital goods (durable goods, whether consumers' goods or producers' goods)—in excess of that fixed by the requirements of a moving equilibrium. When progress comes by jerks, the phenomenon of the boom appears.

We are here concerned with the *speed* of capital formation. It is not a question of "overdevelopment." Were there no errors of judgment, no excess construction of fixed capital, no overbuilding of residences, apartment houses, hotels, office buildings, commercial structures, industrial plants, roads, and public utilities—were just the correct amount of each produced during the boom which growth and progress justify, we should still suffer the depression in the event that such construction had been concentrated in a short space of time. For if the speed of new construction exceeds the long-run requirements of growth and progress, the time inevitably comes when these requirements have been fully met. At this point it will only be necessary to *replace* the existing capital stock and to add each year the increment corresponding to the growth factor. But this involves an absolute decline in capital construction from the peak of activity enjoyed in the spurt.

Imagine a society which never suffered any recession in capital accumulation, a period of bare replacement and upkeep being followed by a period of rapid advance. Such a society, *though it never suffered a setback in capital formation,* would nevertheless have its booms and depressions. Its capital-producing industries would rise to a peak of high activity with every forward thrust in the accumulation of wealth, and would fall to depression levels when mere replacement and upkeep of the existing stock were required. Progress by jerks creates booms and depressions.

If at the end of the depression a shortage of capital goods becomes apparent, either by reason of depreciation, obsolescence, or the emergence of a new demand, it is of the very nature of the private enterprise economy to rush in and make good the deficiency at one fell swoop. By 1935 an astounding demand for machine tools had developed in the United States. Production quickly shot up from almost zero to a point well above the 1926 level. The accumulated postponement of renewals had starved the machine-producing industries until suddenly the pang of hunger was sharply felt. Just now there is being enacted upon the stage of industrial revival another exciting episode—the modernization of obsolescent equipment in the steel industry. The industry wants its full complement of up-to-date facilities at once. Indeed, competition compels quick action. The industry cannot afford to spread its renewals in accordance with the requirements of a uniform rate of growth and expansion. Progress by spurts, by fits and starts—this is the basic cause of the cycle.

It has been urged that, since the capital goods industries are the depressed ones and since it is here that unemployment is greatest, every possible means should be adopted to restore activity in this field to boom levels. Such a policy is regarded as essential to, or even synonymous with, the cure of the depression. In fact, however, such a program only insures a subsequent collapse. Temporarily, indeed, depression is mastered, but the long-run effect is disastrous. Inflation, as a cure for the depression, is inveighed against on the ground that it inevitably breeds deflation. But many monetary conservatives who see this danger, advocate, strangely enough, a policy which equally prepares the way for subsequent collapse. The rate of accumulation of new wealth, of new capital or durable goods, must be slowed down to a pace that can be maintained. We must seek to convert progress by jerks into steady progress. If monetary programs of stabilization do not accomplish this, they will inevitably fail.

Clear insight into this elemental truth is the first essential prerequisite to an understanding of appropriate policy for the upswing. The plain fact is that if greater stability is to be achieved, the capital or durable goods industries must definitely be deflated or else we must find a wider range of uses for such goods.

Yet even though we chose the first alternative, such action would not mean that the output of capital goods relative to total output must of necessity decline—though this might indeed be the case. It would mean, however, that the total output of such goods must be spread over the entire cycle. Such stabilization is rendered extraordinarily difficult by reason of the fact that the spurt in activity comes and goes first in one line and later in others, the cumulation of all these separate spurts rising to ever higher levels until the boom bursts.

The second alternative, under which the capacity of the capital goods industries could be held at the level to which it has been built up—namely, the peak of boom times—would probably require a very substantial increase in the percentage of the total income spent on durable consumers' goods. Since the producers' goods industries have in the past suffered a drastic decline in depression periods, it is evident that a leveling out process would leave a great gap in the prosperity phase of the cycle in the durable goods industries. Yet it is surely better to fill this gap with worth-while durable consumers' goods than to transfer all the surplus agents of production in the producers' goods industries to the output of merely transitory and superficial current goods and services. As a community we need, if we wish to raise the standard of living, to accumulate a larger and larger stock of useful durable goods. Slum clearance represents the most crying immediate need, but there are numberless public works that can be justified the more we acquire a social psychology favorable to community as against purely personal expenditures.

It is important to distinguish consumers' capital from producers' capital. Both involve saving and investment. To repeat, if we are not to devote in future a much larger percentage of our production resources to the output of transitory and current consumption, in the measure that the producers' goods industries are stabilized, a relatively larger volume of savings must flow into investment in consumers' capital. It is just this problem which makes the corporate tax on undistributed profits highly significant. The more or less automatic "plowing back" of corporate earnings into producers' capital intensifies the evil of investment by jerks. But the forcing of larger dividend payments does not of itself insure greater economic stability. If the increased dividend receipts flow into durable consumers' goods—residences, apartment houses, air-conditioning, rural electrification, rural plumbing facilities, public works—at a sharply accelerated pace, the unhealthy "boom" characteristic will still be present unless the role of consumers' capital can be sufficiently extended to *maintain* this enlarged rate of output at the new high level. For the essence of the "boom," as we have seen, is a rate of production of capital goods (whether producers' goods or durable consumers' goods) in excess of the trend of net capital accumulations which growth and progress call for. Moreover, if the increased distribution of dividends and wages is placed at the disposal of the securities market, giving rise to a stock-market boom, as might well be possible, an unhealthy stimulus would be given to the producers' goods industries. There is no assurance (though perhaps a probability) that paying out more dividends will regularize the output of capital (durable) goods.

Many of the arguments raised against the general principle of a tax on undistributed profits are not well founded. It is not true that such a tax necessarily hampers economically desirable corporate growth. Corporations can still raise needed capital without increasing debt, by: (1) the issue of new shares; (2) the issue of stock dividends differentiated from existing issues; or (3) the issue of rights simultaneously with the payment of cash dividends. Stockholders ought to have the right to decide for themselves, for the most part, whether or not they wish to reinvest in the company in which they hold shares. Faulty investment is less likely to be made if corporations are under greater compulsion to submit their investment programs to the judgment of the capital market. The automatic "plowing back" of corporate profits is likely to canalize investment frequently in uneconomic lines, whereas a broad distribution of earnings places investment funds at the disposal of the general capital market and tends to facilitate their employment at the points most needed.

It has been argued that it is necessary to accumulate surpluses in order to meet necessary operating expenses and to retain as large a part of the working force as possible during the depression. There is however little ground for this assertion. What is true is that a corporation which has a high ratio of net capital to debt is in a strong position to sustain losses during the depression. But this ratio is in no way dependent upon how the net capital is represented on the balance sheet—whether by stock certificate or by surplus. Moreover the payment of wages by corporations operating at a loss is not dependent upon whether or not surpluses have been accumulated, but only upon whether the company has cash assets or assets readily convertible into cash.

It is true that dividends cannot legally be paid unless a surplus has previously been accumulated. On the other hand, the mere accumulation of a surplus does not insure the capacity to pay dividends during a depression: for the surplus may have been invested in fixed plant which is not realizable in cash. Moreover it is not true that the mere accumulation in good times of saleable surpluses and the sale and distribution of such surpluses in bad times, in and of itself, helps to stabilize the business cycle. If the surpluses accumulated during the prosperity phase are invested in securities, their accumulation is likely to feed to excess the capital market during the boom. If, however, they are sterilized (in idle demand deposits, or otherwise) during the boom and "dishoarded" during the depression, such action *would* help to stabilize the flow of income and purchasing power.

An increase in the margin requirements, up to a hundred per cent if necessary, on loans secured by collateral listed on the stock exchange is a direct weapon by which excess funds can be shunted off from the producers' goods capital market. This device amounts to a kind of rationing. It is probable that this type of control will have to be elaborated if we are seriously to attack the problem of business stability. This could be supplemented with a sufficiently heavy tax on stock transfers to eliminate pure speculation. In addition, direct control of the emission of capital issues, while fraught with many dangers, may nevertheless turn out to be a necessary instrument of control.

The issue of spending for current consumption versus saving—whether for investment in consumers' capital or producers' capital—is involved in the accumulation of the Old-Age Reserve Account. This problem looms up not only with respect to cyclical fluctuations but also with respect to secular tendencies in business activity. The Old-Age Reserve Account, it is estimated, will accumulate by 1980 about $47,000,000,000. Assume that the accumulations are at first used to absorb the existing government debt. If this debt were not retired, the first $35,000,000,000 of the accumulation (reached by about 1960) could be so invested.[1] Would the effect of such action be inflationary or deflationary? Would it tend toward stability or instability?

Let it be noted that the funds in the Account are accumulated out of taxes on pay rolls and on wages. The Account is therefore financed, not by the creation of new purchasing power, but out of savings from income. The method of raising the funds in the Account is not inflationary. On the other hand, the disposition made of the funds may, under certain conditions, prove to be deflationary. During depression periods the continued accumulation of the funds forces a net addition to the volume of savings. The former holders of the government securities absorbed by the Account would be forced to find other investments. The volume of idle funds—hoards which cannot find investment outlets—would be increased. During the depression, and in the beginning of the revival when hoarding still prevails, the accumulation of the Account funds would therefore tend to be deflationary. On the other hand, during the prosperity phase the accumulations would have the effect of pouring additional funds into the capital market and would thereby tend to exaggerate the boom.

This argument proceeds on the assumption that the Treasury would use the funds to purchase government obligations in the open market. This it need not, however, do. It could sterilize the funds in whole or in part during the prosperity phase and expend the funds so sterilized on ordinary governmental expenditures or on public works during the depression phase. This plan would entail the disadvantage of having to pay interest on the sterilized funds (a minor matter if stability is thereby promoted) but on the other side the great advantage of being able to finance an unbalanced budget[2] during the depression without further borrowing.

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[1] So long as the yield on long-term governments is below 3 per cent the Treasury, under the Act, is compelled to issue special obligations for the Account bearing 3 per cent interest. It has been said that under these circumstances the Account accumulations could not be used to retire the government debt held by the public. This is wrong. The Treasury can use the funds obtained from the Account to retire the outstanding debt. The process amounts to a refunding operation at a higher rate of interest (for the benefit of the Account) but in a manner which will not deflate the market value of government obligations held by the public.

From the standpoint of secular stagnation or prosperity the effect of the Account accumulations depends upon the state of investment activity. There have been times in the history of the last hundred years when technological developments afforded abundant outlets into highly profitable investment. Such was the age of railway construction from the forties to the seventies. There have also been periods in which the outlets were less favorable —when the progress of technique was of a character which absorbed relatively less capital, and investment activity was comparatively sluggish. It is not possible to say what the future may bring in this respect. What does appear fairly certain is a slowing down in the rate of population growth (or perhaps absolute decline in population) and with it a probable decline in the nineteenth-century rate of capital expansion. At all events, if investment outlets should prove relatively restricted, the forced accumulations of so large a fund might well prove deflationary.

Once the Account has grown to the dimensions of the outstanding government debt, further accumulations would call for renewed borrowing by the Federal government. In so far as this entailed increased governmental expenditures or investments, whether in the form of government services, public works, self-liquidating projects, earning assets or outright socialistic enterprises, the continued accumulations of the Account would no longer tend to have a deflationary effect. On the other hand, since the funds are derived from taxes, no inflationary result would follow. The wisdom of such a policy would then have to be judged in terms, not of monetary policy, but of the relative utility of governmental versus private expenditures, governmental versus private investments, and the permissible ratio of public debt to national income. Should such increased governmental expenditures or investments be deemed undesirable, the alternative policy of a reduction in the rate of taxes could be adopted.

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[2] It would be unfortunate if we should come to look upon an unbalanced budget as the standard remedy for depression. Under certain circumstances it may be the appropriate policy; under others, not. England was able to stage revival on low interest rates, private buildings, and low-cost imports. We were not in this fortunate position. Different circumstances call for different policies.

Quite plainly, what must be stabilized is not the rate of expansion in general, but the rate of *investment.* Even a modest achievement of this desideratum requires that purely monetary measures be supplemented with a taxation policy deliberately designed to be used for control purposes. On the one side the tax rates must be adjusted to the various phases of the cycle; on the other side the tax receipts must be sterilized or poured into the market according to the requirements of stabilization. Tax rates could be established by Congress which stand ready, so to speak, to catch excess profits, or a sufficient part of them to temper a boom in the capital market. Moreover, it would not seem impossible to set up a sliding scale of tax rates automatically adjusted up or down, at ever steeper gradations the farther the national income fluctuated from the normal growth trend.

It is perhaps fortunate that there is little prospect that the boom, with all these moderating measures, can wholly be conquered. Despite all the evils to which it subsequently gives rise, the boom has been an important factor in economic progress. One cannot escape altogether the conflict between progress and security. It is not difficult to see that programs of industrial and agricultural regimentation which run in terms of production and price control strongly tend to freeze obsolete situations into a static mold, and to bolster up and preserve elements which the sharp knife of progress would cut out of the economic organism. The whole history of cartelization points to this unfortunate conclusion. If now we also tie down rigidly the boom, which actively generates *new things*, then we shall be striking at progress at both ends—ossifying structures at one point and preventing the formation of new developments at the other. Desirable as it is to moderate the boom, and to eliminate its wild excesses, I do not think we can afford to dispense with it altogether.

MONETARY INITIATIVE IN A TRADITIONAL WORLD

By JAMES HARVEY ROGERS

TO DESCRIBE the recent currency experiences of the United States is to recount one of the strangest and most dramatic episodes in monetary history. While occasional depreciation of the world's chief units of value has apparently been the rule rather than the exception in past ages, the motivating influence in every earlier recorded experience seems to have been the financial needs of the sovereign (and more recently of the government) rather than the economic well-being of the country. Until 1933, history had failed to record a single instance of a great country's resorting to currency depreciation for the avowed and sole purpose of reviving internal prosperity. The honor of initiating so drastic and so far-reaching a remedy for domestic ills fell to the United States under the leadership of Franklin D. Roosevelt. Even though the experiment is still in its early stages, a study of effects already observable should prove illuminating.

On March 4, 1933—the day of the inauguration of President Roosevelt for his first term—all of the commercial banks of the United States were closed. The drastic credit contraction, spreading from bank to bank and carrying with it the necessity of liquidation[1] of bank assets on a scale which could not be met, had reached its final goal. Never before had a president of the United States been inaugurated under conditions of such acute economic stress and never before had the American public with such an approach to unanimity demanded an immediate and effective remedy. Many thought that the banking system should be taken over en masse by the government, and experienced commentators of the period still argue with much force that American public opinion at that moment would have accepted even so drastic a measure.

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[1] *Cf.* Article by the author: "The Absorption of Bank Credit," *Econometrica.* I, No. I, 68, *seq.* (January, 1933).

Among the emergency decrees of this crisis was one of the following day (March 5), which placed a temporary embargo on the export of gold. Four days later, on March 9, this temporary embargo was extended until further proclamation; and, on April 19, the President ordered an embargo on all exports of gold except that earmarked for foreign countries. Thus did the United States leave the gold standard.

Unlike that in Great Britain this action was taken deliberately and purposely, without being forced by external pressure. The fall of the pound sterling, in terms of which many of the most important international markets were conducted, had had an extremely depressing effect on the prices of many of our leading exports—notably agricultural products—and one of the purposes of the depreciation of the dollar was to correct that situation.

Indeed, so great had become the disparity between the prices paid by the farmer for his necessary purchases and those received by him for the products he sold that farm foreclosures had reached an appalling rate. Even the American system of land tenure, based largely in our most important farming sections on the cultivation by owners of small individual holdings, was being threatened. For the first time in our history widespread revolt among such farm owners made its appearance. Thus, because of price disparities coupled with a burdensome agricultural debt situation, had arisen revolutionary tendencies in one of the most virile, most patriotic, and most nonrevolutionary groups in the world.

Moreover, in 1932, even the mildest of inflationary devices—such as credit expansion through open-market purchases of the Federal reserve banks, which were sorely needed to arrest the vicious spiral of deflation—could hardly be discussed without a gold outflow frequently sufficiently large to counteract the beneficial effects of such action. The gold embargo naturally put a direct and complete stop to such embarrassment.

With a departure from the gold standard in the United States, as in Great Britain, three outstanding domestic advantages appeared:

1. Prices of basic raw materials with markets largely outside the United States rose.
2. In foreign trade the United States gained an advantage over countries with undepreciated currencies and recovered its position with respect to the sterling bloc countries which had taken a similar advantage when they earlier left gold.
3. Complete monetary freedom, making possible long-continued low interest rates, was assured.

After April 19, 1933, the depreciation of the dollar became substantial and effective. The immediate response of prices and of business—before other recovery measures were in force—was so similar in broad outlines to the upward movements of both which had been experienced in other countries where sudden but mild currency depreciation had occurred that few students of the subject outside the United States have been inclined to question its direct connection with the decline of the dollar.

The price connection, in fact, was, to a certain extent, obvious and automatic. For products with markets almost exclusively outside the United States, it is clear, the *automatic* rise in dollar prices would correspond very closely to the depreciation of the dollar in terms of the currencies in which the markets were made. For products with markets to a considerable extent within the United States the resulting *automatic* rise would be reduced. And, for products with markets exclusively within the country, the effect on prices would be only indirect and secondary. Moreover, to the extent that American products were shut out of foreign markets it was clearly seen that the immediate, direct, and automatic effect on their prices would be counteracted.

For the convenience of the reader, a chart giving the movements of three classes of prices in the United States from their February, 1933, level is included.[2]

The rise in the prices of basic raw materials from March to July, 1933, is one of the most rapid in our history. The rate of rise of thirteen of these commodities with markets largely outside the United States was, however, even greater. The general level of wholesale prices, on the other hand—as was clearly anticipated—rose much more slowly and gradually. However, it is also clear from the two curves of prices of basic raw materials that the very rapid initial rise cannot be accredited even principally to the direct *automatic* influence of dollar depreciation. The anticipation on the part of many operators of inflation and of forthcoming arbitrary price-raising devices led to the purchase of large stocks of certain basic commodities whose prices are included in the indices used; and much of the price rise indicated can be attributed to these purchases. The higher level maintained in succeeding years by the prices of the commodities with markets largely outside the United States, nevertheless, would seem to give some[3] statistical evidence of the potency of this *automatic* influence. The more gradual, more even, and more persistent rise of the general level of wholesale prices adds evidence of the validity of the above analysis as well as of the gradually spreading movement in our price structure as a whole. It should not be forgotten, however, that with the introduction of many artificial price and production control measures which made their appearance rapidly after the early summer of

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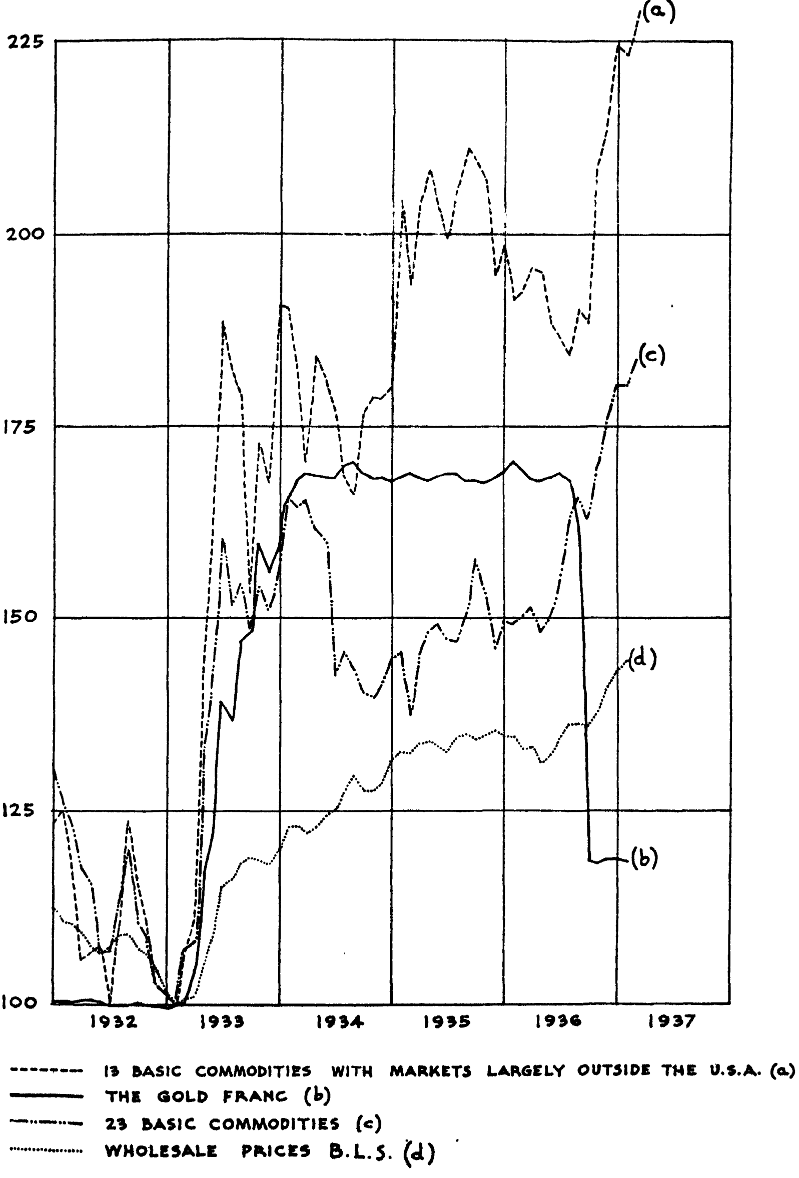
[2] *Sources:* (a) Computed from data furnished by the Guaranty Trust Co. of N.Y. (for 15th of each month); (b) *Federal Reserve Bulletin* (monthly averages); (c) Guaranty Trust Co. of N.Y. *Guaranty Survey* (for 15th of each month); (d) U. S. Bureau of Labor Statistics, *Wholesale Prices* (monthly averages).

[3] A.A.A. and N.R.A. influence accounts for some of it, no doubt.

PRICES IN THE UNITED STATES

FEBRUARY 1933 = 100



1933, it became impossible to segregate the effects of monetary influences from those of others; and consequently only from the earlier price movements can such deductions be made with assurance. The general similarity of these early price rises, however, with those in other depreciating countries lends much confidence to the conclusions above drawn.

On foreign trade, even the immediate and direct effects of currency depreciation are less easy to trace. Clearly, by lowering the value of its money unit, a country would automatically make the prices of its products cheaper to buyers in countries with undepreciated or less-depreciated currencies. Also, in the selling of goods in other parts of the world a competitive advantage with such countries would likewise automatically appear.

That both of these influences were operative from the beginning of the depreciation period (September, 1931) is evident in data from many parts of the world. That the first was largely and quickly counteracted in most parts of the world is likewise evident. In fact, the pressure on the balances of international payments of countries with overvalued currencies became so quickly apparent that emergency protective devices of all sorts, to be described below, multiplied rapidly.

The second influence, however, was less easily and less promptly counteractable. As a consequence, and as is clearly indicated from statistics of world trade, the position of the depreciating countries with respect to a fast-dwindling international trade was considerably enhanced. And, since after early 1933, when the dollar left gold, a preponderant portion of the world's economic system was operating on depreciated currencies, a trade stimulus within that group apparently proved a leavening influence in much of the rest of the world.

Most far-reaching and lasting of the domestic advantages of currency depreciation, however, was the effect on internal money conditions—an effect independent of the action of other countries. Once gold outflows had been stopped by the embargo, inflationary devices of various kinds could be utilized beneficially without being counteracted. After the departure from the gold standard, therefore, "open-market" purchases of government securities by the Federal reserve banks became vastly more effective and the long, downward trend in interest rates of all sorts, destined to continue until January, 1937, got under way. In the opinion of the writer, it was the reduction in long-term interest rates, coupled with a revival of financing at those rates, more than any other single influence, that marked the beginning of recovery in the United States. That the same influence, likewise growing out of an abandonment of the gold standard, seemed to herald the recovery in many other parts of the world, while its long absence in the gold bloc countries accompanied a continued downward trend of economic activity, provides some experimental justification for this opinion.

On page 106 is a chart of long-term interest rates[4] in two of the gold bloc and in two of the sterling bloc countries, and of several kinds of interest rates in the United States. That in each case the beginning of the long decline in interest rates was closely associ-

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[4] *Sources: United States:* Corporate Bond Yields: Standard Statistics, Index of High Grade Corporate Bond Yields: Standard Trade and Securities Basic Statistics, Vol. 80. No. 26, p. B110; also Current Statistics, Vol. 85. No. 5, p. 42.

United States: Government Bond Yields: Average of yields of all outstanding bonds due or callable after eight years: *Annual Report of Federal Reserve Board* for 1935, Table 74 and current numbers of *Federal Reserve Bulletin.*

United States: 90 Day Prime Bankers' Acceptances: Mean of monthly high and low prior to September, 1931; since then, monthly averages of daily quotations at New York: Standard Trade and Securities Basic Statistics, Vol. 80. No. 26, p. A34; also Current Statistics, Vol. 85. No. 5, p. 7.

United States: Treasury Notes 3-5 Years: *Federal Reserve Bulletin,* May, 1936, p. 317, and current issues.

France: Yield on 36 miscellaneous bonds (3 government; 2 mortgage; 12 railways; 19 industrial): *Statistical Year Book of the League of Nations.*

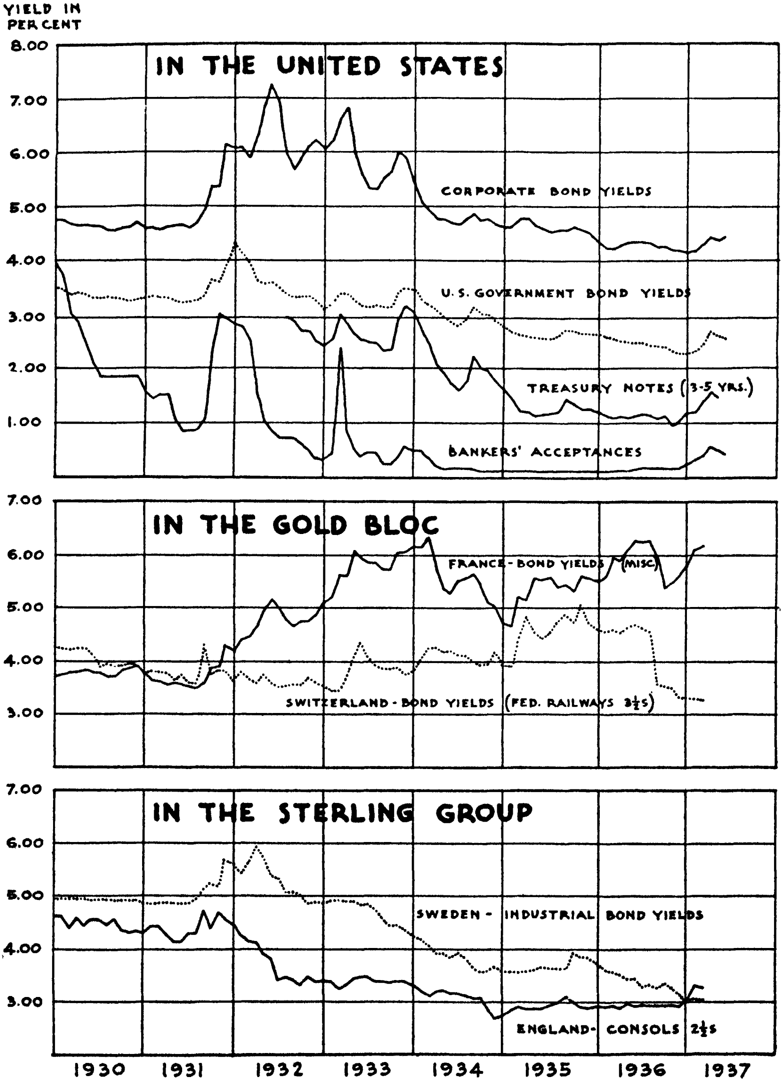
Switzerland: Bond yields, Federal Railway 3½s: *Statistical Year Book of the League of Nations.*

Sweden: 6 Industrials: *Statistical Year Book of the League of Nations.*

England: Consols 2½s: *Statistical Year Book of the League of Nations.*

Other estimates of the gold production of Soviet Russia for 1936 are larger than those of the Bank for International Settlements here used.

INTEREST RATES



ated at least in time with changes in the monetary standard is clearly evident.

How important the combined effect of the three major domestic advantages above described has proved is no longer a matter of serious debate. In every single country which has depreciated its currency conservatively and has been thus enabled to keep the channels of international trade reasonably open, recovery has come. In those countries in which the depreciation occurred first, recovery in practically every instance has come first; and in the others in the order in which such action was taken. In a word, of the major countries, the sterling bloc and Japan left gold and allowed their currencies to depreciate first; and recovered first. The United States left gold and depreciated its currency next; and recovered next. Belgium and Czechoslovakia followed in their turn. Now France, Holland, and Switzerland have taken similar action and similar results are beginning to appear in at least two of these countries.

In the rest of the world, the recovery was much retarded and in certain countries made its appearance only recently under the impetus of a large public works program in the form of armaments and military preparations.

For several years the position of the gold bloc countries was indeed a difficult one. To the extent that the price position in the sterling and dollar groups was improved, theirs was worsened. To the extent that the international trade position in the countries of depreciated currencies improved, theirs declined, and as opposed to the complete monetary freedom in the countries which had given up the gold standard or had devalued their currencies to a much lower level, the severest types of restrictions became necessary.

To guard their gold supplies against being gradually drained away, old tariff duties were raised and new ones created. Narrowly limited *quotas* were applied. Clearing and compensation agreements were negotiated. And, finally, exchange restrictions in many countries made almost impossible the import of articles other than those which the government decided were worthy of import. And the governmental decision was frequently based largely on military demands.

So severe were some of the quota restrictions that in Switzerland, for example, a Ford automobile sold for twenty-four hundred dollars while it could be bought in this country for but little more than six hundred. Certain other articles brought almost equally fantastic prices.

Literally some of these countries in their loyalty to gold were choking themselves to death—economically speaking. In a world full as never before with goods of high quality at record cheap prices, they were shutting themselves off from their use.

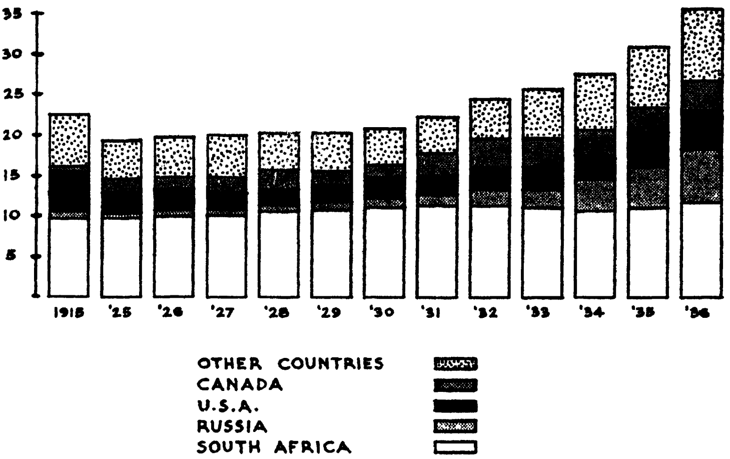
Thus, while the domestic advantages of currency depreciation have been proved by experience to have been real and effective, in the countries applying this drastic remedy, the *international disadvantages* have also been very great. Under the restrictions to trade and exchange which were greatly aggravated by the depreciation of the world's two leading currencies, the total of international commerce declined to a bare 40 per cent of its predepression value, and its recovery from that low has so far been but slow and slight.

The above brief outline of outstanding observed effects of currency depreciation is, however, but part of the story. Perhaps the most significant effects are still in the future.

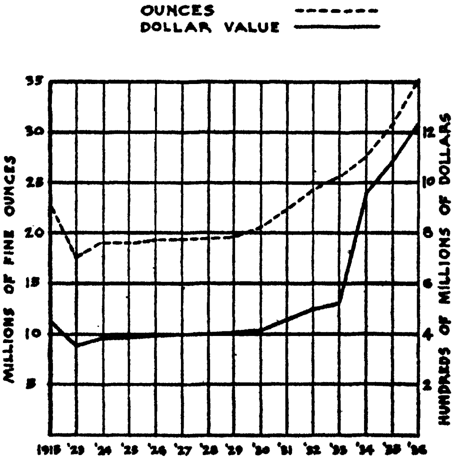
The devaluation of our money unit by 49 per cent increased the dollar value of our existing gold supply by 69 per cent. Its capacity for supporting a money and credit structure was correspondingly increased. Devaluations in other parts of the world have produced similar increases. Hence by mere strokes of pens, the metallic base of the world's currency systems has been increased, literally over night, by amounts never made available

THE WORLD'S GOLD

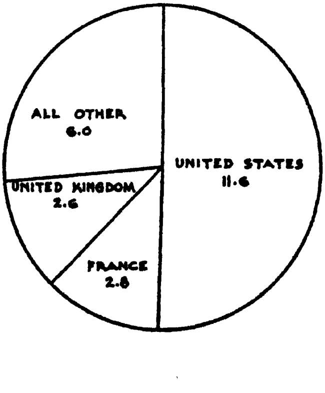
WORLD'S GOLD OUTPUT
(IN MILLIONS OF FINE OUNCES)



WORLD'S GOLD OUTPUT



DISTRIBUTION OF THE WORLD'S MONETARY GOLD
MARCH 31, 1937
(IN BILLIONS OF DOLLARS)



before in a period of decades. Added to this huge increase the higher price of gold not only caused Indians and others to disgorge large portions of their hoards but, in addition, has stimulated, at least temporarily, the production of new gold at a rate never before even approached.[5]

Hence if the world is to continue to use gold in the future in some way comparable to that in which it has used it in the past as a basis of its money systems, the present monetary situation is in some respects not unlike those situations that prevailed after the great discoveries of the precious metals.

To assume, however, that the recent and current increases will be followed automatically by a long period of rapid economic development similar to those after the discovery of the Americas or after the California, Klondike, or Transvaal discoveries, would be to ignore the very great and dangerous problems which the recent sudden and continuing increases have created.

To show quantitatively the exact character of some of these and other monetary problems in the United States, the reader is invited to give close attention to the accompanying chart, which may be regarded as a balance sheet of the monetary system.[6]

In order to secure the balance it was necessary to discard all the conventional, unconventional, and Keynesian categories of money and to set about finding classifications useful for the purpose. Hence the common-sense device of picturing all of our money and bank credit as being on one of three levels was applied. The top level is typified by *central bank reserves;* the middle level, by *member bank reserves;* and the bottom level by

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[5] For details, see Chart of *The World's Gold* on page 109.

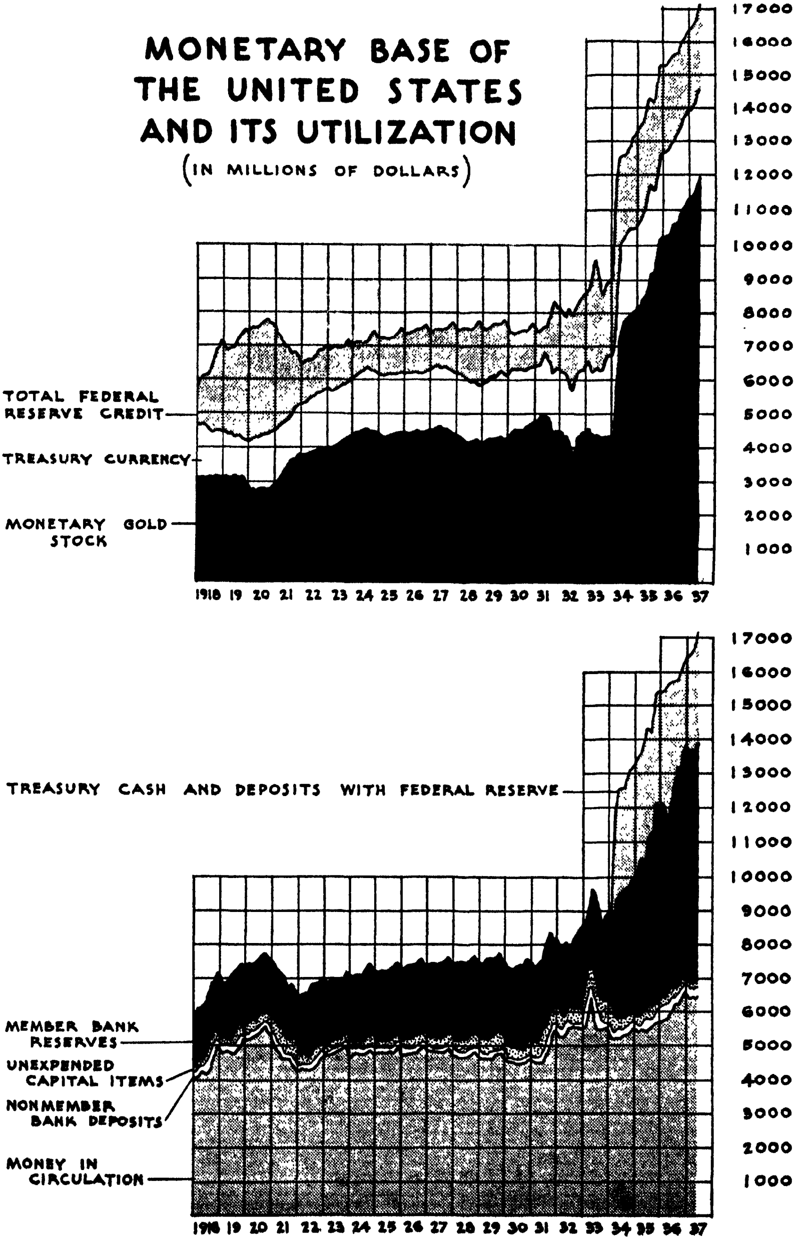
Sources: World's Gold Output: Bank for International Settlements. *Seventh Annual Report,* p. 38.

Distribution of the World's Monetary Gold: *Federal Reserve Bulletin,* May, 1937.

[6] The data upon which this chart is based were first set up by Fred L. Schuster, now of Lehman Corporation. Soon thereafter they began to be published currently by the *Federal Reserve Bulletin.* For a full exposition of the details of establishing the balance see Winfield Riefler, *Money Rates and Money Markets in the United States,* New York, 1930, pp. 237 *et seq.*

MONETARY BASE OF THE UNITED STATES AND ITS UTILIZATION

(IN MILLIONS OF DOLLARS)



member bank deposits (or individual reserves, if you like).

The balance is set up for the middle level. Every inflow of funds to that level from whatever source is spoken of as an addition to *basic money*, and every outflow, as a reduction of basic money.

In the United States we have three major sources of supply of so-called *basic money*. The first is our gold stock, which has come out of our mines or from abroad and now goes into our money system through the issue of gold certificates. It represents, of course, the major portion, as is seen from the chart.[7] In addition there are two organizations in our financial structure that issue *basic money*. One is the United States Treasury and the other is the Federal reserve banks. While the basic money put out by the Treasury consists of coins, silver certificates, Treasury notes, and so on, all of which are useable for actual cash circulation; that of the Federal reserve banks, on the other hand, is of an entirely different character, being the total earning assets[8] of these central institutions and hence, according to any ordinary classification, not money at all.

Together these three constitute the monetary base of the United States, as depicted in the top part of the chart, which shows from month to month the total of each.

The utilization items in the lower chart show exactly how from month to month all of the monetary base is employed. It will be noted that for each month the ordinate in the lower chart is exactly equal to that in the upper; in other words, there is a balance, and the use of all that we have of *basic money* is accounted for.

Specifically, as will be seen from the chart, the largest single utilization item is money in circulation. In other words, even in the United States, where the use of checks is perhaps more highly developed than in any other part of the world, more than half of the basic money is in general used for hand-to-hand circulation and for till money. The other major use is as member bank reserves, only relatively insignificant portions being consumed as foreign and other nonmember bank deposits with the Federal reserve banks and as unexpended capital items of these central institutions.

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[7] It, of course, also appears in our money system on the level of central bank reserves; but with this level the balance is not concerned.

[8] Corrected for minor items which add to or detract from the actual total of central bank credit outstanding.

After January, 1934, however, it will be noted that a new item of utilization made its appearance simultaneously with the upward revaluation of the gold stock. Consisting largely of the two billion dollar "stabilization fund" still held mostly in gold, it includes also the deposit balance of the national Treasury at the Federal reserve banks.[9]

With such a balance sheet, a quantitative study of monetary phenomena becomes greatly simplified.

By reference to the chart it will be seen how greatly the value (and consequently the currency supporting capacity) of the gold stock was increased by devaluation, which came at the end of January, 1934. It will be further seen that the subsequent inflow from abroad and from domestic mines has added an even larger amount.

Except for counteracting devices—designed for the purpose—both of these huge sums, totaling over seven and one half billion dollars, would normally have been added to the excess reserves of the commercial banks. Instead of using the gold profit to meet the demands of a pitifully unbalanced national budget, however, more than two-thirds of it was constructively tied up in a stabilization fund at the moment when otherwise the need for such a fund had largely passed. A large portion of the rest of the gold profit was in turn utilized to retire our national-bank notes and thus reduced correspondingly Treasury currency—another item in the monetary base.

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[9] Prior to February, 1934, such balances were deducted from "Treasury Currency" in the upper chart.

The subsequent gold inflows, on the other hand, appeared directly in member bank reserves and have been counteracted by doubling the reserve requirements of the members banks; in the past few months, new inflows have been thrown out of use by the sale of Treasury bills, the proceeds of which have been impounded. As a result of the application of all these devices member bank excess reserves have been reduced to somewhat less than a billion dollars, while approximately seven billions have been thrown out of use.

Thus by raising the price of gold to thirty-five dollars an ounce through a corresponding devaluation of the money unit, the United States has accumulated somewhat more than half of the monetary gold stock of the world. Able to use safely only about one-third of this huge hoard, it has in turn found means of avoiding the inflationary effects on its money system of much of the remaining two-thirds. Moreover, by raising reserve requirements as one of the sterilization devices, it has reduced by approximately one-half the deposit-expansion possibilities on the remaining unutilized reserves.

Such is the extraordinary monetary situation in which the United States finds itself with a full-sized "boom" getting rapidly under way.

Finally, certain by-products of currency depreciation, completely unanticipated—as is frequently the case in human affairs—already begin to appear as most important of all the effects. The initial spontaneous response to a threat to one's money system is to meet it as a threat to one's country. To do so is a question of national honor, of prestige, and therefore of patriotism. Note the words of Mussolini in a speech delivered to a crowd gathered to meet him as he motored through the small provincial town of Pesaro on August 18, 1926.

> I will defend the lira to the last breath, to the last drop of blood. I shall never inflict on this marvellous people of Italy, which for four years has worked like a hero and suffered like a saint, the moral shame

> and the economic catastrophe of the failure of the lira. The Fascist regime will resist with all its strength every attempt at strangulation on the part of adverse financial forces, and is ready to stifle them when identified at home.
>
> The Fascist regime is prepared, from its head to the last of its rank and file, to impose all necessary sacrifices upon itself; but our lira, which represents the symbol of the nation, the sign of our wealth, the fruit of our labours, of our efforts, of our sacrifices, of our tears, of our blood, must be defended and will be defended.[10]

That the response was as sentimental as the appeal there seems little reason to question. But what is even more significant, neither response nor appeal differed greatly from those current in the most respectable economic and financial circles in both Great Britain and America.

In poverty-stricken countries and in those completely dependent on the outside world for essential raw materials, just as in the wealthy and self-sufficient ones, the immediate and all-important end was to save the gold standard at any cost. In comparison the economic well-being of the country seemed in most parts of the world to sink into relative insignificance.

Under these circumstances many countries—especially those whose economic positions were in the most precarious state—have literally scrapped their time-honored economic systems rather than give up their monetary ideals.

In the process we have seen economic nationalism and state capitalism expand with a rapidity hitherto inconceivable. And by some strange fate, the more poverty-stricken the country and hence the more damaging the effects, the more rapid has been their spread.

Simultaneously, as if in mockery, transportation and communication have developed more rapidly than ever before. So, in a period of history when the free functioning of an international economic order could do most to improve the well-being of all the human race, we find in many countries unparalleled efforts to build up nationally self-sufficient economic units and to utilize the marvelous new scientific advances almost solely for purposes of destruction.

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[10] Quoted from "Speeches of Benito Mussolini" on Italian Economic Policy during the First Decennium. Edited by the Instituto Italiano Di Credito Marittimo, Rome, 1934.

That the depreciation of the world's major currencies aggravated these vicious tendencies there seems no reason to doubt. But that the resulting fantastic actions of those following blindly their loyalties to established institutions have thrown into even bolder relief the hopeless economic inferiority of certain countries pursuing most enthusiastically such suicidal policies is equally beyond question.

Whether, however, the knowledge of such demonstrated differences in economic power will be constructively utilized is an open question. Will the Western democracies, which still contain no less than three-quarters of the economic system of the world, utilize their greater power to re-establish an international economic order? Or, on the contrary, will they continue to fritter away their substance on overgenerous and ill-conceived domestic reforms, while the authoritarian states, with their meager resources, continue to build and exert their military powers?

CANADA

THE MONETARY EXPERIENCE OF CANADA DURING THE DEPRESSION

By S. R. Noble

In order to reach a conclusion regarding the effects of monetary policy on Canadian economy during the recent depression, it is necessary to describe the financial machinery in existence before the depression. The Canadian banking system comprised eleven banks. These banks enjoyed free note issue privileges up to their paid-up capital, with the right to expand to a moderate degree during the crop-moving season, and to issue notes to an unlimited extent, fully covered by deposit of gold or Dominion notes in what was known as the Central Gold Reserve. Bank reserves other than gold consisted of notes of the Dominion of Canada, issued mainly in the form of instruments of large denominations, negotiable only between banks, and known as Clearing House Legals. The Dominion Government also issued circulating notes of various denominations, having the monopoly of notes of the denomination of one and two dollars. The Dominion note issue was governed by the Dominion Notes Act which, prior to the War, provided for an uncovered issue of $37,500,000, amounts in excess of this to be covered dollar for dollar by gold.

Shortly after the outbreak of war, legislation was passed known as the Finance Act of 1914, which provided, among other things, that the Government had the right to make loans by issuing Dominion notes to the chartered banks against deposits of various classes of security. As the volume of such loans was at the discretion of the Government, it was possible that the gold reserve, as a result of borrowing by banks, might be greatly reduced. In other words, this Act practically removed the previous legal limit on the uncovered note issue. The financial strain of War induced the Government in the session of 1915 to make direct advances to themselves in Dominion notes amounting to $26,000,000, which brought the volume of Dominion notes, uncovered by gold or borrowings by banks, up to $63,500,000. Although the Finance Act was at the time intended as an emergency war measure, it was continued in slightly modified form up to the opening of the Bank of Canada in March, 1935.

Gold payments had been suspended during the War but were resumed July 1, 1926. Canada was definitely on the gold standard until about the end of 1928. In November, 1928, the Dominion Government held against the note issue of $236,650,000 a total of $109,000,000 in gold, representing a coverage of 46.3%. Two months later, by the end of January, 1929, gold reserves had decreased to $59,000,000. This sudden decline can be accounted for by seasonal influences and heavy investment by Canadians in United States securities. While the Government did not admit it, and exchange was kept at approximate parity with United States funds until shortly before Great Britain suspended gold payments in September, 1931, Canada was technically off a gold basis from the beginning of 1929. Gold was not allowed to move freely, the banks having been requested not to ship gold without the Government's approval. Most of the time there was a premium on New York funds higher than was justified by the cost of shipping gold to New York. With the heavy loss of gold referred to above, borrowings of banks under the Finance Act naturally increased. During the whole of 1929, as indicated by the monthly bank statements, these loans averaged more than $80,000,000, as compared with an average of about half this amount in the previous year. As might have been expected with the boom conditions then existing, the general banking position was overextended. Total loans as of January 31, 1930, amounted to $1,621,000,000, as against total desposits of $2,085,000,000. The banks were therefore compelled to borrow heavily from the Government under the provisions of the Finance Act at a time when there was general lack of confidence, when securities were declining rapidly in value, and losses through bad debts were appearing daily. Naturally they did everything possible to realize on assets in order to reduce these borrowings to a minimum and they carried on with less than their normal cash reserves.

Recession in business led to substantial liquidation of current loans. Thus from January 30, 1930, to the same date in 1931 there was a reduction of no less than $289,000,000 in loans, or nearly 18 per cent in a single year. In the same period deposits declined by $100,000,000. The situation paralleled the vicious spiral of deflation which had set in in the United States.

Canada reached something of a crisis in September, 1931, when it was no longer possible to keep up the fiction that the country was on the gold standard and the currency began to show fairly substantial depreciation in terms of gold. This occurred before the suspension of gold payments by Great Britain on September 21, 1931. By December, 1931, the premium on New York funds touched 25 per cent but, since the premium declined within a short time to less than 10 per cent, the relief was short-lived.

Borrowings of the banks under the Finance Act had been reduced from the high level of $80,000,000 in 1929 to moderate proportions, averaging perhaps $20,000,000 for the year 1931 and increasing to an average of about $30,000,000 for the first ten months of 1932. During this period two of the larger banks had not found it necessary to borrow and, as a result, invidious comparisons were being made at the expense of those which were borrowing. It was, of course, clear that if all banks had been able and willing to pay off their total borrowings under the Finance Act, bank cash would have been reduced by the amount of such payments, which would necessarily have led to a further liquidation of assets in order that desposits might be reduced in proper relation to bank reserves.

As early as the middle of 1930 there was in Canada a considerable body of opinion in favor of a policy of deliberately depreciating the Canadian dollar to an extent roughly corresponding to the fall of the general price level in the United States. This would have been analogous to the policy already pursued by Australia but it would have been a more scientific experiment. Against the fulcrum of gold prices, through an increase in the note issue, which would have been used to purchase gold or gold exchange, we could have applied the leverage which would have kept our price level approximately stable. Of course, we would have had disequilibrium as between agricultural prices and industrial prices, but this was inevitable in any event. There can be no reasonable doubt that under such a scheme Canada could have avoided the worst features of the depression and started recovery many months earlier than actually occurred. Moreover, in due time this policy would have brought Canadian exchange to the point it now occupies in relation to the American dollar and sterling, namely, at parity. It was a case for the practical application of the words of Archimedes of Syracuse: "Give me a lever long enough, and a fulcrum strong enough, and single-handed I can move the world."

Perhaps it was too much to expect that, with the gold standard still undiscredited, this "unorthodox" procedure would find favor in high financial and government circles but, with the suspension of gold payments by Great Britain, the question was brought into the open and seriously discussed. The advantages were obvious. That the suggestion was not adopted, notwithstanding the opposition of many financial leaders on general principles, was due, I think, to one condition peculiar to Canadian economy. I refer to the fact that a very large body of our corporation, municipal, provincial, and Federal Government securities were payable at par of exchange in two or three currencies, namely, in Canadian dollars and sterling; in Canadian dollars and American dollars; in Canadian dollars, sterling, and American dollars.

According to statistics supplied by A. E. Ames & Company, Ltd., approximately $2,200,000,000 of Canadian government and municipal securities were payable in two or three currencies and more than $1,000,000,000 were payable only in sterling or United States currency, these two classifications accounting for nearly 50 per cent of our public debt. A considerable proportion of the "two-pay" and "three-pay" securities was actually held in Canada. Of Canadian corporation bonds outstanding, roughly estimated at $2,200,000,000, less than 14 per cent were payable in Canadian money only, this notwithstanding the fact that the great bulk of them, probably at least 70 per cent of the total, were actually owned in Canada. This is a striking example of how lightly exchange risks were regarded prior to 1931.

A premium of, say, 35 per cent on United States money would have made the payment of interest and maturing principal very onerous to the debtors. Objection was immediately registered by representatives of the various governments and corporations which had issued such securities. In many cases the situation of corporations would have been a serious one, because whatever relief such a policy would have provided to business in general, it would not have increased proportionately the earning power of many companies, such as public service corporations. On the other hand, corporations depending on export markets, notably the pulp and paper companies, would have been enormously benefited even after providing for increased interest charges reckoned in terms of Canadian dollars. It is not surprising that this was not always recognized. The directors of such companies were sure of the increase in their interest charges but did not see as clearly the greater benefits from a substantial increase in the Canadian dollar price of their products. For the governments concerned the objection, although strongly held, was, I believe, based on an illusion. The following is quoted from a memorandum, dated October 4, 1931, which the writer contributed to this discussion:

> It is stated that Canada owes a very large amount abroad and her interest bill will be increased by the percentage of premium on gold currencies. It is true that where taxes are of a fixed character and not easily changed, municipalities, and to some extent provincial governments, would suffer, but this will be nothing as compared with the benefits which would accrue to the taxpayers. Their ability to pay taxes or to subscribe to loans to make up deficits would be increased in far larger proportion than the loss which would temporarily accrue to the taxing authorities. So far as the Federal Government is concerned, their receipts from sales and income taxes, etc., would, of course, increase as rapidly as business improved; but against this extra cost for interest abroad, municipalities, provinces and the Federal Government would be relieved of a weight of social service, principally in connection with unemployment, which would many times offset this factor. It is a complete fallacy to say that it would cost Canada any more in terms of production to pay amounts which may be due abroad because Canadian currency was quoted at a discount. Payments abroad are met not by Canadian currency but from proceeds of sale of wheat, paper, etc., and the value of Canadian currency does not affect the gold value of such products in the least. For the country as a whole the objection is based on a pure illusion.

Many of those not directly affected and therefore able to consider the question from a detached point of view, raised a further objection, namely, that to attempt the deliberate depreciation of a currency was, if not immoral, something very akin to it. The proposal, on the contrary, was an attempt to keep the Canadian dollar "honest," in other words, to maintain its purchasing power in terms of commodities. Some financial leaders felt that experimenting with a plan of maintaining a premium on the United States dollar roughly equal to the decline in the American price level might start a train of events which could easily get beyond control and visions of postwar European inflations were quoted. To meet these objections the proposal to tie the Canadian dollar to sterling at parity was then put forward. It was contended that this could be very simply arranged by a provision that such increase in the Dominion note issue as was necessary to depreciate the Canadian dollar to parity with sterling should be invested in sterling exchange, which would always be available if a reversal of the process were required. Thus the Canadian Government would have been buyers of sterling at a discount and sellers at a premium. This plan was debated in the press and in Parliament during the session of 1932 but was generally rejected as inflationary and dangerous by the outstanding newspapers and the leading members of both the Government and the Opposition.

That the idea gradually took hold, however, is shown by subsequent history. The first evidence of this was the arrangement by which the Government on November 1, 1932, forced the banks to borrow under the Finance Act and thereby took the first action to defeat the deflationary money situation which was driving business to lower levels. This action took the form of a sale by the Dominion Government of $35,000,000 of two-year Treasury Bills to the banks, the Government demanding that each bank borrow under the Finance Act an amount equal to its participation in the loan. The banks were not at liberty to repay these loans during the currency of the Treasury Bills. The banks which previously had not been borrowing now found themselves with an increased supply of cash which they immediately proceeded to lend or invest, thus making available additional cash to other banks. The latter banks, to the extent that they were already borrowing under the Finance Act in excess of the forced loan, used this additional cash to pay off their indebtedness. During the following eighteen months the borrowings of each of the banks only occasionally exceeded their proportion of the forced loan. Thus the pressure towards liquidation of bank assets was relieved; on the other hand, the situation was so nicely balanced that there was no pressure on the banks to expand loans and investments such as surplus reserves would have provided. Total desposits in Canada reached their lowest point at this time, amounting to $1,843,000,000 on December 31, 1932, as compared with $2,164,000,000 on December 31, 1929—a reduction of 15 per cent.

That there was no pressure for expansion is clearly indicated by the fact that on June 30, 1934, deposits were only $10,000,000 above the low point eighteen months previously. During this time establishment of the Bank of Canada had been mooted and legislation covering its establishment was being discussed in Parliament, but it was evident that the Bank of Canada would not be ready to take hold of the situation until early in 1935. It was apparently realized that no particular expansion in bank deposits, the *sine qua non* of recovery, could be expected so long as the banks were not supplied with sufficient cash to induce them to expand loans and investments. To meet this situation an amendment to the Dominion Notes Act was assented to on June 28, 1934, which provided that

> The Minister of Finance shall always hold as security for the redemption of Dominion Notes up to and including $120,000,000 issued and outstanding at any one time, an amount equal to not less than 25 per cent of the amount of such notes in gold. As security for the redemption of Dominion Notes in excess of $120,000,000 the Minister shall hold an amount equal to such excess.

This Act permitted an increase in the uncovered portion of the note issue from $63,500,000 to $116,000,000, thus authorizing an increase in Dominion notes of $52,500,000. In making the announcement of the legislation the Government connected the transaction with a public works program, but actually the additional notes were paid into the banks to the credit of the Government almost immediately and long before the public works program was in operation. The effect on the expansion of bank figures was instantaneous. On June 30, 1934, two days after this legislation went into effect, total deposits of Canadian banks were $1,851,000,000. From that time forward they show a monthly increase and a total increase as of September 30, 1936, of no less than $300,000,000. The effect on security prices was most marked. The Government was able to complete a huge refunding operation as early as October, 1934, at a cost of approximately 1 per cent per annum lower than the yield on government securities of a similar class immediately prior to this legislation. On the coming into existence of the Bank of Canada in March, 1935, the Dominion note issue was taken over and all the legislation referred to above became obsolete. After the opening of the Bank of Canada approximately the same volume of bank reserves was maintained. Not before October, 1936, did the Bank of Canada find it necessary to increase the volume of bank money.

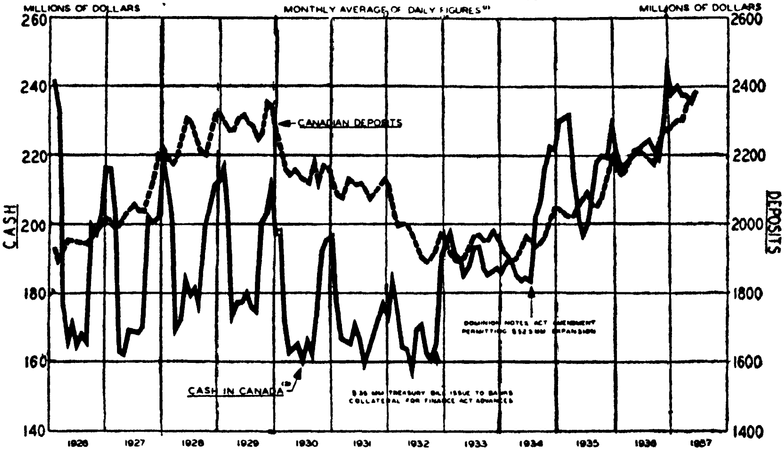
The amendment to the Dominion Notes Act in 1934 was almost the exact equivalent of the plan mentioned above which had been rejected more than two years earlier. This amendment took place five months after revaluation of gold by the United States. Almost immediately thereafter we found Canadian currency again at parity with the United States dollar and practically in line with sterling.

We have sketched in rough outline the principal financial events of the depression as it affected Canada. We may perhaps be justified in retracing our steps, endeavoring to decide, in the light of subsequent events, "what might have been." What would have been the effect had the positive monetary action represented by the amendment to the Dominion Notes Act been taken at or before the date of suspension of gold payments by Great Britain? There seems no doubt that recovery in Canada would have paralleled that of Great Britain and those countries which promptly joined the sterling group. Actually, however, there was a time lag in recovery roughly equal to the delay in adopting similar measures. This experience seems to justify the belief that the depression was due mainly to misguided financial policies, particularly on the part of those financially powerful countries that controlled the gold supply of the world, i.e., Great Britain, France, and the United States. Of these we must largely absolve Great Britain from blame. From the start of the depression her policy was designed to ease the strain, not only in British countries, but throughout the world. If we recall her efforts to assist other parts of the empire, her unaided efforts to save the situation in Austria, Hungary, and other smaller countries, and the fact that she stood steadfast while the withdrawal of funds from Germany brought about collapse in that country, we can perhaps find justification for this statement. In the effort she brought herself to the situation where, after borrowing heavily abroad, she was forced to suspend gold payments in September, 1931. In the meantime gold continued to flow in unprecedented volume to France and the United States. Some may argue that the policy followed by Great Britain was partly responsible for this flow of gold. Whatever might be said on this point does not alter the fact that in the United States the financial authorities permitted continuous deflation to proceed when there can be no reasonable doubt that it could have been defeated by the policies which were put into force three years later—three years too late. The French situation was somewhat different in that they had not completely adjusted themselves to the revaluation of the franc in 1928. The price level in France continued to rise and the country enjoyed considerably better than normal business for at least a year after the depression had taken a firm hold of the rest of the world. The final result of policies which permitted France and the United States to continue to draw gold in huge quantities from the world could and should have been foreseen. It required the breakdown of the gold standard in all countries to usher in recovery. An intelligent approach to the monetary problem at the proper time might conceivably have forestalled the present political tensions in Europe; might indeed have changed materially for the better the history of the world.

The lesson we have attempted to draw and to support by the actual experience of Canada has to do with the influence of the money and banking situation on depression and recovery. If this influence can be clearly isolated and proven it will be of inestimable value for the future. The conditions in Canada provided a better laboratory in which to conduct financial experiments than, for instance, the United States provides. In the latter country the public exhibited a lack of confidence in the banking system which finally became complete with the crisis of March, 1933, and hoarding of currency took place on a scale unprecedented in any country. A similar phenomenon did not occur in Canada and the standing of the Canadian banking institutions was never questioned.

Monetary action can be expected to give prompt results only when the commercial banking machinery is operating normally. The Canadian experience shows that so long as bank reserves were deficient, deposits steadily declined and liquidation proceeded apace. When the position was nicely balanced in this respect, as during the period between November, 1932, and July, 1934, bank figures remained almost stationary. As soon as the banks were provided with surplus reserves by the change in the Dominion Notes Act of June 28, 1934, deposits immediately began to grow and have continued to do so up to the present time. This movement is clearly indicated by the accompanying graph. It is true, of course, that these movements were influenced to some extent by developments abroad and particularly in the United States, but the changes in trend can be traced definitely to the changes in the volume of bank reserves and do not coincide either in time or degree with the changes which took place in the United States.

CHARTERED BANKS . CASH IN CANADA AND CANADIAN DEPOSITS



(1) UNTIL MARCH 1936 DEPOSITS ARE THE AVERAGE OF MONTH-END AND PREVIOUS MONTH-END FIGURES

(2) UNTIL MARCH 1935 GOLD AND COIN IN CANADA, DOMINION NOTES AND FREE CENTRAL GOLD RESERVE DEPOSITS. AFTER THAT DATE BANK OF CANADA NOTES AND DEPOSITS.

To paint a complete picture, due allowances have to be made for a number of factors which have not been touched upon and which within the limitations of a paper of this character cannot be examined, but experience will have taught us nothing if, as a result of occurrences of the last seven years, we do not conclude that positive action from a monetary point of view is the first essential in controlling excesses of both boom and depression.

ENGLAND

THE CREDIT DEADLOCK[1]

By R. G. HAWTREY

THE SUBJECT matter of economics is human behavior. Like the other social sciences, it is at a disadvantage in comparison with the physical sciences, because it is precluded from experimenting. The economist has to be content with the evidence to be derived from the course of events.

But even if economists could make experiments, it may be doubted whether they could attain results in the way that physicists and chemists obtain them. For in the nature of things the circumstances determining human behavior cannot be exactly repeated. In economics there are no empirical laws. The most we can hope for is assistance from the experience of one time in interpreting the events of another.

There was a period when enthusiasts claimed a mathematical precision for monetary theory. But I do not think anyone would do so now. People's behavior in regard to money may be somewhat less erratic than in regard to economic activity in general, but the difference is only one of degree. All our propositions about money are relative to the imponderables of human nature. They require constantly to be reconsidered in the light of fresh experience.

A period of monetary upheaval, such as we have passed through since the War, is bound to supply new examples of the reaction of human behavior to circumstances. It may be regarded as a series of experiments which the march of events has put at the disposal of the monetary theorist. And he ought to be making use of this invaluable material.

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[1] What I have to say in the following pages represents my personal views, and is not to be associated in any way with my official position in the British Treasury.

Perhaps the most notable of all the lessons to be derived from the years of depression is to be found in the prolonged failure of the accepted methods of credit regulation to induce revival. In expounding the theory of bank rate, one is often tempted to take for granted that the volume of short-term borrowing is bound to respond to a rise or fall in the short-term rate of interest. And in general that is correct. But conditions may arise when it ceases to be so.

Writing before the War, I indicated this possibility in the following terms. "What if the rate of depreciation of prices is actually greater than the natural rate of interest? If that is so, nothing that the bankers can do will make borrowing sufficiently attractive. Business will be revolving in a vicious circle; the dealers unwilling to buy in a falling market, the manufacturers unable to maintain their output in face of ever-diminishing orders, dealers and manufacturers alike cutting down their borrowing in proportion to the decline of business, demand falling in proportion to the shrinkage in credit money, and, with the falling demand, the dealers more unwilling to buy than ever."[2]

As an example of this state of things, I adduced the years of cheap money "at the end of the period from 1873 to 1897, when there had been a prolonged falling off in the gold supply, and in consequence a continuous fall in prices."

By the "natural" rate of interest I meant the equilibrium rate corresponding to the marginal yield of capital. The assumption was that an expected fall of prices must be set off against the natural rate to arrive at the real rate or, as I then termed it, the "profit rate," and that a prolonged experience of falling prices would give rise to the expectation of a further fall.

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[2] *Good and Bad Trade* (1913), p. 186.

The stagnation of business after the American crisis of 1893 was a remarkable phenomenon. The continuance of a 2 per cent bank rate for two years and seven months (from February, 1894, to September, 1896) was without parallel, till the year 1932 saw the beginning of a spell of 2 per cent, which has already exceeded four years.

A comparison of the circumstances is evidently called for. The fall of prices from the maximum touched in 1920 to the minimum of 1932 was very much greater than that from 1873 to 1896. The *Statist* (Sauerbeck) wholesale index fell from 266 in April, 1920, to 77 in June, 1932, whereas in the other period it fell from 111 in 1873 to 59.2 in July, 1896. In the United States the fall from 1920 to 1932 was approximately the same, but there was an important difference between British and American conditions. In Great Britain the fall in prices was very nearly unbroken, and there was continuous depression from 1921 to 1929, whereas in the United States there was no considerable fall in prices between those two years, and business was active from 1923 to 1929.

This American experience throws doubt on the assumption I made in 1913 that the expectation of falling prices is the result of a preceding experience of a prolonged actual fall. The state of stagnation has been at least as complete in the United States as in Great Britain. Yet the fall of prices in the United States took place in two relatively short and precipitate collapses from May, 1920, to January, 1922, and from September, 1929, to February, 1933; in the intervening period there was a condition of approximately stable prices and prosperous activity.

Recurring to the subject in 1922, I said that "such a condition of stagnation is not possible except in the course of reaction from a riot of inflation."[3] Here again I think experience points to a correction. So far as Great Britain is concerned, there had never been a trace of inflation since the middle of 1920. In the United States, it is true, many people would say that there was a state of inflation in the period of the stock-market speculation which culminated in 1929. But that is a misconception. Inflation for our present purposes means an undue expansion of the consumers' income, and a consequent rise of the price level above what is required to yield normal profits. Profits in the United States in 1929 were somewhat above normal in manufacturing industry, but below normal in mining and agriculture. If on the whole they were above normal, the excess was small and such as could have been corrected by a very slight measure of deflation.

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[3] *The Genoa Resolutions on Currency* reprinted from the *Economic Journal* of September, 1922, in my *Monetary Reconstruction*, p. 133.

What has brought about the credit deadlock of the years since 1930 has not been "a reaction from a riot of inflation," but, on the contrary, the application of deflationary measures at a time when there was no serious inflation to justify them.

The seeds of the trouble were being sown in the years following the return of Great Britain to the gold standard. From 1925 to 1929 British industry was exposed to the unprecedented experience of a continuously high bank rate (averaging 4.85 per cent) at a time of depression and severe unemployment. Usually when in the course of the trade cycle a period of activity makes way for one of depression, all the principal countries have been sharing in the activity. But in 1929 Great Britain was already qualified to act as a center of contagion, from which depression would spread to any other country that might become susceptible to it.

Deflationary measures were initiated in the United States in the summer of 1928, and early in 1929 there began an intensified absorption of gold by France, and the bank rate was raised still higher in London. By July, 1929, a setback in industrial activity in the United States became perceptible. Nevertheless deflationary measures continued both in the United States and in Great Britain and it was only when the stock-market crisis broke out in

Wall Street at the end of October, 1929, that there was any relaxation.

From that time the transition from high to low bank rate in London was unprecedentedly slow. The reduction from 6½ per cent to 3 per cent was spread over six months, whereas on similar occasions before 1914 it had usually taken less than two.[4]

Now at a time of active business, measures of credit restriction may of course be found insufficient to reverse the expansive tendency, though it is always possible to intensify them up to the point at which they will be effective. But in 1929 and 1930 measures of restriction were continued after they had already been found effective. Deflation was successfully started in the summer of 1929, and thereafter the restrictive measures were intensifying the existing tendency in that direction. By the time cheap money was fairly started in the spring of 1930, deflation had already gained so powerful a hold that cheap money by itself was an insufficient corrective. Perhaps a lavish policy of open-market purchases by the principal central banks might have been found an adequate remedy. But it was not applied (except on a very small scale in the United States), and the depression went on gathering momentum till the succession of financial crises in 1931 introduced a new phase.

The five years that have elapsed since then have seen many changes and many experiments. But through them all the credit deadlock has persisted in Great Britain and the United States and indeed in the greater part of the world. Efforts have been made over and over again to induce that expansion of demand which is the essential condition of a revival of activity. In the United States, particularly, cheap money, open-market purchases, mounting cash reserves, public works, budget deficits on a scale reminiscent of wartime, in fact the whole apparatus of inflation has been applied, and inflation has not supervened. Only after years of this treatment has a slow tendency towards revival become apparent, and apparently these inflationary expedients have failed to accelerate it.

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[4] See my *Art of Central Banking*, p. 234.

This experience is in marked contrast to the precedent of forty years ago. The régime of cheap money initiated in England in February, 1894, did not stop the fall in the price level till the summer of 1896, but by that time there were nevertheless clear signs of revival. The British percentage of unemployment in trade unions fell from 10.2 per cent at the end of 1892 to 3.1 per cent at the end of 1896. The fall in the percentage of insured workpeople unemployed, from 23 in August, 1932, to 12 in August, 1936, indicates great progress towards recovery, but it is still a long way from normal.[5]

At this stage it will be worth while to examine a little more closely into the nature and causation of the credit deadlock which has thus baffled treatment.

We have reason to doubt that it is due, as I supposed when writing in 1913, to a prolonged preceding experience of falling prices. And in fact, so far as short-term expectations go, there are circumstances which are likely to have a much more direct and potent effect. The individual trader does not study the prospects of the general price level, but fixes his attention on the prices of the particular commodities he produces or deals in. He will watch the sales of these commodities to the consumer or final purchaser, primarily his own sales, but also the sales of his colleagues and competitors. The symptom he must watch for is a divergence of sales from output, taking effect in an increase or decrease in the stocks awaiting sale.

At a time of high demand sales exceed output, and stocks diminish. This foreshadows a rise of price. And similarly at a time of low demand it is an accumulation of unsold goods that foreshadows a fall of prices.

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[5] No one can say with any confidence what percentage is to be regarded as "normal" under existing conditions. I do not think we ought to be satisfied with a ratio above 4 per cent.

Price changes are sometimes the result of speculative expectations. That is so particularly in the case of agricultural products of which the supply depends on the weather and other natural conditions, but a change in circumstances affecting demand for any commodity may also sometimes be foreseen and may affect price before any actual change in sales has become perceptible.

These, however, form a limited class of cases, and, apart from them, traders have no guidance in fixing prices except their actual sales. The process is purely empirical. Dealers in a commodity order from the manufacturers enough to replace what they sell to consumers. If sales increase or decrease, the volume of orders increases or decreases to approximately the same extent. A change of price usually originates with the manufacturers, who find the orders they receive in the one case outstripping their capacity, in the other leaving them insufficiently employed. In the former case they will tend to raise their price (at first perhaps in the form of a premium on early delivery) and in the latter to lower it, and the price charged to consumers will then be adjusted.

Consider now the consequences of a fall in general demand (that is to say, in the total amount of money offered for goods by final purchasers). If retail prices could be reduced as fast as general demand falls, there would be no decline in sales at all. But in practice this does not occur. That is partly because the process of adjustment, being empirical, takes time, but partly also because the price concessions offered by manufacturers, depending upon costs and therefore upon wages, are limited. There is therefore a decline in the volume of sales, and traders need proportionately smaller stocks of goods. Stocks which were previously just adequate become redundant, and the orders given to the manufacturers are *less* than equivalent to the sales to consumers. And the manufacturers order less materials and intermediate products than they use up in their productive operations. Thus the further removed any process is from the final product, the more severely is the demand for it curtailed. There is a reduction of productive activity more than in proportion to the contraction of general demand, and particularly pronounced in the production of primary and intermediate products.

That is the cause of the vicious circle of depression. The shrinkage of activity and consequently of incomes causes a further shrinkage of general demand, and so the depression progresses cumulatively. The extreme degree of pessimism which causes the credit deadlock is traceable more directly to the fact that stocks of unsold goods are continually tending to become redundant than to any definite expectation of the course of prices.

And so far as borrowing for working capital is concerned, that is to say, for the purchase of commodities either to be resold or to be used in production, it is obvious that the most complete and effective deterrent is the possession of excessive stocks.

Credit *restriction* can always be made effective in a community in which stocks of goods are held with borrowed money. If a rise in the short-term rate of interest is found insufficient to check an increase in general demand, the rate can be raised higher and higher. And, what is perhaps of greater practical importance, the rise in the rate can be reinforced with an actual refusal of bankers to lend. Every banker reserves to himself the right to refuse a loan or to limit the amount he will lend. Traders can, at a pinch, get on with much smaller stocks of goods than they ordinarily find it convenient to hold. That is to say, they can be induced to buy in smaller quantities and at shorter intervals.

But the efficacy of credit *relaxation* in this direction is limited, for once a trader has been led by credit facilities and a low rate of short-term interest to indulge his maximum convenience in buying, there is nothing more to be done. It may be very inconvenient to him to buy a week's supply at a time, and slightly vexatious to have to buy every three weeks. But he may not want in any circumstance to buy more than six weeks' supply at a time. If a shrinkage of sales leaves him with eight weeks' supply on hand, no amount of credit facilities will induce him to buy any more till he has reduced his stock to the normal minimum, and, when he does buy, it will be only six weeks' supply.

This cumulative effect of depression is not confined to the short-term capital market. It occurs likewise in long-term investment.

The growth of capital takes two forms. There is a "widening" process through the flotation of new enterprises and extension of existing enterprises; and there is a "deepening" process through the substitution of capital for labor in a given enterprise. The widening process would under stable conditions keep pace with the economic growth of the community, but is subject to fluctuations corresponding to the fluctuations of general demand. At times of high demand many industrial concerns find their productive capacity strained, and the widening process is hastened. At times of low demand industry is employed below capacity, and the widening process is retarded, and may practically be altogether suspended.

When the widening process is retarded, the tendency is for the deepening process to be intensified, that is to say, for a more liberal use of capital to be stimulated by a low rate of long-term interest. But that is only so if the supply of savings seeking investment does not fall in proportion to the needs of the widening process. A shrinkage of general demand involves a decline of profits and of savings, and there might be no increase in the resources to be absorbed in the deepening process. In practice, however, the total resources entering the investment market at a time of depression are reinforced by a mass of idle working capital, a part of which is invested directly in securities, and a part remains on deposit and is likely to be invested by the banks to a great extent in the same manner.

This inflow of idle money into the investment market tends to relieve the depression. By raising the prices of securities and lowering the long-term rate of interest, it offers encouragement to long-term investment. If the encouragement is effective, if, that is, the investment market succeeds in evoking a sufficient amount of capital outlay to use up the funds entering it, the resulting productive activity generates incomes and therefore demand.

It is the check to the widening process that sets up a cumulative tendency to depression, in that the decline of general demand discourages capital outlay, and the decline of capital outlay diminishes demand. The stimulus to the deepening process acts in the opposite direction. And it is not subject to the same limitations that govern the effects of credit relaxation on working capital. For under existing conditions there is an almost unlimited scope for the deepening process. The fact that the deepening process means the displacement of labor by machinery at a time of depression and unemployment is not a serious drawback, for it is mainly the demand for the more durable forms of capital equipment that is stimulated by a fall in the rate of interest, and the amount of labor displaced will only be a small fraction of that employed while the new capital equipment *is actually being produced.* And a fall in the rate of interest will also have some effect even on the widening process, in that it will stimulate the production of those goods in the price of which, to the consumer, the factor of interest forms a specially large proportion. That applies particularly to dwelling houses. At a time of depression the demand for houses falls off along with the demand for everything else. But a big fall in the long-term rate of interest will tend to revive the demand. That it may raise the demand even above normal is suggested by British experience since 1932. On the other hand, recent American experience has shown that, though the demand does respond, it may not reach the normal level.

The response of industry to a fall in the rate of interest is also doubtful. The picture usually offered by economic theory of a queue of projects waiting for the rate of interest to fall by a sufficient fraction to make them remunerative is quite fictitious. The net yield of any instrument of production has to be arrived at by deducting the cost of maintenance and depreciation from its gross cost-saving capacity; it can only be calculated very approximately and within a wide margin. A great part of the projects awaiting adoption at any time are new inventions or improvements which promise a yield far above the rate of interest but are subject to a certain amount of risk. A fall in the long-term rate of interest may have very little effect in stimulating capital outlay on such projects. When the widening of capital is held up by depression, there may be a real difficulty in inducing industry to use up the resources of the investment market in the deepening of capital.

If there is an expectation that the low rate of interest will be temporary, intending borrowers will be led to hasten their flotations. But, on the other hand, the same expectation will lead investors to hold back. Even if they do not go so far as to keep their savings in idle deposits (as Mr. Keynes suggests in his *General Theory of Employment, Interest and Money*), they would at any rate refrain from borrowing money to buy securities. And the holders of idle working capital, which is likely to be required for the purchase of goods when business revives, will be unwilling to risk a capital loss.

On the other hand, so long as there is an expectation that the fall in the rate of interest has further to go, people will hasten to invest, but borrowers will hold back.

On the whole the presumption seems to be that the long-term investment market will not afford much help towards breaking the deadlock so long as the widening process is held up. And the widening process will be held up so long as general demand is so contracted that industry is seriously underemployed.

From a disastrous experience a twofold lesson is to be hoped for: we may learn how to avoid repeating it, and we may learn how to escape from it if it is repeated. In the present case, however, the guidance is by no means so clear as might be desired. The process by which the world became sunk in the slough of despond was a long and complicated one. There is probably not a step in the whole journey which some economist could not be found to bless as wise and sound and one which ought to be taken again if the circumstances were repeated. And there is a disposition in many quarters to treat the whole calamity as an act of God, beyond human power to avert.

Nevertheless I will take upon myself to indicate what in my opinion are the inferences to be drawn. I have already mentioned the régime of dear money in England in the years 1925-1929, and the delay in the transition to cheap money in 1929 and 1930. Here, then, was a wide departure from nineteenth-century practice. There was, it is true, a big absorption of gold in 1929. But it had nothing to do with the increased monetary circulation; it was due to a change in the monetary machinery of France, which acquired ten milliards of gold (400,000,000 dollars of 23.22 grains) in the year 1929. For that, credit restriction or dear money could not be a remedy.

Another matter that influenced those responsible for credit regulation in the world was the stock-market speculation in the United States. Now it is undeniable that, when stock-market speculation grows beyond a certain limit, its effects on credit cannot be ignored. That is so for at least three reasons: The operations of speculators themselves give rise to a creation of credit; a favorable market is an encouragement to new flotations and capital outlay; the habit of making money quickly through the appreciation of stocks and shares is likely to encourage freer spending on consumption. Some measure of credit restriction may be justified to prevent the resulting expansive tendency from going too far, but the idea that the stock-market speculation itself, apart from its inflationary reactions upon industry, requires to be checked by the central bank is a fallacy. The state of productive activity should always be the test. The central bank has ample facilities for estimating this, partly from statistical data, and partly from its own contact with the various branches of business. If economic activity is receiving a stimulus from a stock-market speculation, its effects are *already* reflected in the state of business as presented to the central bank, and do not have to be taken into account over again.

If a central bank makes the stopping of a stock-market speculation an end in itself, it may be led into measures of credit regulation which are utterly inappropriate to the state of business generally. In 1929 the Federal Reserve banks succeeded in stopping speculation by stopping prosperity. Had they changed over without delay from credit restriction to relaxation, perhaps little harm would have been done. But the idea prevailed not only in the United States but in the rest of the world that a dangerous state of inflation had to be counteracted.

As a matter of fact, experience has shown that the prices of stocks and shares were by no means so extravagantly overvalued as was supposed. Even now (November, 1936), when recovery in industrial activity has hardly progressed halfway, the index of industrial shares is higher than at any time before 1928. But that is not the main point. No doubt the prices of stocks and shares were reasonably thought to be excessive in September, 1929, but *even if they were* that did not justify deflation.

By the summer of 1930 the credit deadlock was fairly established. It is possible that, under the influence of cheap money in all the principal centers, the deadlock might have been overcome in a relatively moderate time but for the financial crises that broke out in 1931. A financial crisis in itself has a potent deflationary effect. And if it is accompanied by an intense pressure to borrow, which has to be checked by a high bank rate, the deflation is aggravated. In such conditions the real purpose of the high bank rate is to prevent the increased lending from developing into inflation. In a country which is suffering from a deflationary deadlock, measures taken against inflation are about as wise as precautions against sunstroke on an Arctic expedition.

If it be asked how the world is to avoid drifting into such a deadlock in future, perhaps the best answer is: By ceasing to apply deflationary measures once deflation has set in. But if unfortunately the deadlock does appear, what is the best way of escape? That is more difficult to answer, because we have not escaped yet. All the inflationary measures that the wit of man has devised have together proved insufficient to overcome it.

Nevertheless the course of events has not left us wholly without guidance. It is hardly open to doubt that for a short time after the suspension of the gold standard in 1931, the deadlock was successfully broken in England. But the bank rate was put up to six per cent and kept at that rate for four and a half months, and by the time it was reduced the deadlock was firmly re-established. In the United States there was similarly a transitory interval, following the first depreciation of the dollar in 1933, when revival seemed to be carrying all before it. But in July, 1933, the National Recovery Act brought an all-round increase of costs, and the expectations of profit on which the movement had been built were suddenly dissipated. Pessimism reigned once again, the impetus of revival was lost, and the depreciation of the dollar was interrupted. For a moment the vicious circle of deflation had made way for the vicious circle of inflation. The vicious circle of inflation in the conditions of the time was another name for recovery; the vicious circle of demand generating activity and activity generating demand exhibits economic virtue in the guise of logical vice.

In November, 1933, the gold-buying policy started the dollar once more on the path of depreciation. One day in that month there was a sudden spasm of the foreign exchange market, and the depreciation of the dollar momentarily outstripped the measured rise in the price of gold. The rise was suspended, then resumed at a slower rate, then finally in January, 1934, the price of gold was fixed at $35 a fine ounce. With the price of gold in London kept close to 140s. a fine ounce, the world was de facto back on a gold standard.

One of the virtues of an international gold standard is its inertia; a change in the purchasing power of gold, which has to take effect throughout an international system, is not easily started. But when it is started, it is not easily stopped. In 1934 the appreciation of gold which had started in 1929 had still not exhausted its momentum. It had indeed slowed down, but had been reinforced by a restoration of "confidence" in France at the moment when the dollar and the pound were linked to gold and therefore to the franc. At the beginning of 1935 the gold price level was 43 per cent of what it had been in 1929, and the pound and the dollar were at 59 per cent of gold parity. A rise in the gold price level was urgently needed, but the inertia of the re-established international system was a formidable obstacle.

In the past two years that inertia has been gradually giving way. General revival has begun to make steady progress. The abandonment of former gold parities by France, Switzerland, and Holland in September, 1936, may be expected to help materially towards this development.

But whatever lessons are to be learnt regarding the way of escape from a credit deadlock, it is to be hoped that in the future the prior lesson of *prevention* will have been learnt. In the past monetary theorists have been disposed to lay stress on the dangers of inflation. That those dangers are real and that warnings on the subject are necessary was shown only too clearly by the events of the years 1914-1923. But the experience of the past seven years has shown that the dangers of deflation are *even greater*.

THE THEORY OF THE RATE OF INTEREST[1]

By JOHN MAYNARD KEYNES

PERHAPS the following is a useful way of indicating the precise points of departure of the thory of the rate of interest expounded in my *General Theory of Employment, Interest and Money* from what I take to be the orthodox theory. Let us begin with four propositions, which, although they may be unfamiliar in form, are not inconsistent with the orthodox theory and which that theory has no reason, so far as I am aware, to reject.

(1) Interest on money *means* precisely what the books on arithmetic say that it means; that is to say, it is simply the premium obtainable on current cash over deferred cash, so that it measures the marginal preference (for the community as a whole) for holding cash in hand over cash for deferred delivery. No one would pay this premium unless the possession of cash served some purpose, i.e., had some efficiency. Thus we can conveniently say that interest on money measures the marginal efficiency of money measured in terms of itself as a unit.[2]

(2) Money is not peculiar in having a marginal efficiency measured in terms of itself. Surplus stocks of commodities in excess of requirements and other capital assets representing sur-

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[1] I have thought it suitable to offer a short note on this subject in honor of Irving Fisher, since his earliest and latest contributions have been concerned with it, and since during the whole of the thirty years that I have been studying economics he has been the outstanding authority on this problem.

[2] This implies a slightly different definition of marginal efficiency from that which I have given in my *General Theory* (p. 135), namely the substitution of "market value" for "replacement cost." The meaning of "marginal efficiency of capital" of which I make use—and which is, in my opinion, the only definition of the term which makes good sense—was first introduced into economic theory by Irving Fisher in his *Theory of Interest* (1930), under the designation "the rate of return over cost." This conception of his is, I think, the most important and fruitful of his recent original suggestions.

plus capacity may, indeed, have a negative marginal efficiency in terms of themselves, but normally capital assets of all kinds have a positive marginal efficiency measured in terms of themselves. If we know the relation between the present and expected prices of an asset in terms of money we can convert the measure of its marginal efficiency in terms of itself into a measure of its marginal efficiency in terms of money by means of a formula which I have given in my *General Theory*, p. 227.

(3) The effort to obtain the best advantage from the possession of wealth will set up a tendency for capital assets to exchange, in equilibrium, at values proportionate to their marginal efficiencies in terms of a common unit. That is to say, if r is the money rate of interest (i.e., r is the marginal efficiency of money in terms of itself) and y is the marginal efficiency of a capital asset A in terms of money, than A will exchange in terms of money at a price such as to make $y = r$.

(4) If the demand price of our capital asset A thus determined is not less than its replacement cost, new investment in A will take place, the scale of such investment depending on the capacity available for the production of A, i.e., on its elasticity of supply, and on the rate at which y, its marginal efficiency, declines as the amount of investment in A increases. At a scale of new investment at which the marginal cost of producing A is equal to its demand price as above, we have a position of equilibrium. Thus the price system resulting from the relationships between the marginal efficiencies of different capital assets including money, measured in terms of a common unit, determines the aggregate rate of investment.

These propositions are not, I think, inconsistent with the orthodox theory, or in any way open to doubt. They establish that relative prices (and, under the influence of prices, the scale of output) move until the marginal efficiencies of all kinds of assets are equal when measured in a common unit; and consequently that the marginal efficiency of capital is equal to the rate of interest. But they tell us nothing as to the forces which determine what this common level of marginal efficiency will tend to be. It is when we proceed to this further discussion that my argument diverges from the orthodox argument.

Put shortly, the orthodox theory maintains that the forces which determine the common value of the marginal efficiency of various assets are independent of money, which has, so to speak, no autonomous influence, and that prices move until the marginal efficiency of money, i.e., the rate of interest, falls into line with the common value of the marginal efficiency of other assets as determined by other forces. My theory, on the other hand, maintains that this is a special case and that over a wide range of possible cases almost the opposite is true, namely, that the marginal efficiency of money is determined by forces partly appropriate to itself, and that prices move until the marginal efficiency of other assets fall into line with the rate of interest.

Let me proceed to give the further propositions, which, I suggest, the orthodox theory requires.

(5) The marginal efficiency of money in terms of itself has the peculiarity that it is independent of its quantity. In this respect it differs from other capital assets. This is a consequence of the Quantity Theory of Money strictly stated (a matter to which we shall return later). Thus, unless we import considerations from outside, the money rate of interest is indeterminate, for the demand schedule for money is a function solely of its supply. Nevertheless, a determinate value for r can be derived from the condition that the value of an asset A, of which the marginal efficiency in terms of money is y, must be such that $y = r$. For provided that we know the scale of investment, we know y and the value of A, and hence we can deduce r. In other words, the rate of interest depends on the marginal efficiency of capital assets other than money. This must, however, be supplemented by

another proposition; for it requires that we should already know the scale of investment. This further proposition is as follows.

(6) The scale of investment will not reach its equilibrium level until the point is reached at which the elasticity of supply of output as a whole has fallen to zero.

Hence follows the final synthesis of this theory. The equilibrium rate of aggregate investment, corresponding to the level of output for a further increase in which the elasticity of supply is zero, depends on the readiness of the public to save. But this in turn depends on the rate of interest. Thus for each level of the rate of interest we have a given quantity of saving. This quantity of saving determines the scale of investment. The scale of investment settles the marginal efficiency of capital, to which the rate of interest must be equal. Our system is therefore determinate. To each possible value of the rate of interest there corresponds a given volume of saving; and to each possible value of the marginal efficiency of capital there corresponds a given volume of investment. Now the rate of interest and the marginal efficiency of capital must be equal. Thus the position of equilibrium is given by that common value of the rate of interest and of the marginal efficiency of capital at which the saving determined by the former is equal to the investment determined by the latter.

Now my departure from the orthodox theory takes place, as I have said, at propositions (5) and (6), for which I substitute:

(5)* The marginal efficiency of money in terms of itself is, in general, a function of its quantity (though not of its quantity alone), just as in the case of other capital assets.

(6)* Aggregate investment may reach its equilibrium rate under proposition (4) above, before the elasticity of supply of output as a whole has fallen to zero.

Before we examine the grounds for substituting (5)* and (6)* for (5) and (6), let us stop for a moment to consider more fully the meaning and the practical implications of the special postulates of the orthodox theory.

Let us begin with proposition (5). So far as the active circulation is concerned, it is sufficiently correct as a first approximation to regard the demand for money as proportionate to the effective demand, i.e., to the level of money income; which amounts to saying that the income velocity of the active circulation is independent of the quantity of money. This is, I say, only a first approximation because the demand for money in the active circulation is also to some extent a function of the rate of interest, since a higher rate of interest may lead to a more economical use of active balances, though this only means that the active balances are partially under the same influence as the inactive balances. But we also require the postulate that the amount of the inactive balances is independent of the rate of interest. I do not see, however, how this can be the case, except in conditions of long-period equilibrium, by which I mean a state of expectation which is both definite and constant and has lasted long enough for there to be no hangover from a previous state of expectation.

In ordinary conditions, on the other hand, this postulate would have awkward consequences quite incompatible with experience. It would mean, for example, that "open-market operations" by a central bank would have no effect, other than momentary, on the rate of interest, the price of bonds remaining the same whatever quantity of them the central bank may buy or sell; the effect of the central bank's action on prices being such as to modify the demand for money to just the same extent as that by which the central bank was altering the supply of money.

Let us now turn to proposition (6). A zero elasticity of supply for output as a whole means that an increase of demand in terms of money will lead to no change in output; that is to say, prices will rise in the same proportion as the money demand rises. Inflation will have no effect on output or employment, but only on prices. This is what I mean by saying that the orthodox theory of the rate of interest involves a strict interpretation of the Quantity Theory of Money, namely that P changes in the same proportion as M. This does not, of course, mean that T and V in the equation $PT = MV$ are irrevocably fixed; but the above, in conjunction with proposition (5), does mean that T and V are neither of them a function of M and that they do not change merely as a result of inflation in the quantity of money. Otherwise interpreted, a zero elasticity of supply for output as a whole involves a zero elasticity of supply for employment, i.e., there is, in my terminology, full employment. Indeed the condition in which the elasticity of supply for output as a whole is zero, is, I now think, the most convenient criterion for defining full employment.

It seems, therefore, that the orthodox theory requires (1) that there should be a state of definite and constant expectation and (2) that there should be a state of full employment. These limitations mean that it is a particular theory applicable only to certain conditions; and this is my justification for calling my own theory a *general theory*, of which the orthodox theory is a limiting case. Perhaps I am wrong in making the orthodox theory employ these postulates. For I am under the disadvantage that no one has ever thought it worth while to write down the postulates which the orthodox theory is supposed to require. But I do not at present see any alternative.

If I am right, the orthodox theory is wholly inapplicable to such problems as those of unemployment and the trade cycle, or, indeed, to any of the day-to-day problems of ordinary life. Nevertheless it is often in fact applied to such problems. The postulates which it requires, not having been stated, have escaped notice, with the result that deep-seated inconsistencies have been introduced into economic thought. The orthodox theory of the rate of interest properly belongs to a different stage of economic assumptions and abstractions from that in which any of us are thinking today. For the rate of interest and the marginal efficiency of capital are particularly concerned with the *indefinite* character of actual expectations; they sum up the effect on men's market decisions of all sorts of vague doubts and fluctuating states of confidence and courage. They belong, that is to say, to a stage of our theory where we are no longer assuming a definite and calculable future. The orthodox theory, on the other hand, is concerned with a simplified world where there is always full employment, and where doubt and fluctuations of confidence are ruled out, so that there is no occasion to hold inactive balances, and prices must be constantly at a level which, merely to satisfy the transactions motive and without leaving any surplus to be absorbed by the precautionary and speculative motives, causes the whole stock of money to be worth a rate of interest equal to the marginal efficiency of capital which corresponds to full employment. The orthodox theory is, for example, particularly applicable to the stationary state.[3] For in such conditions, not only is proposition (5) valid for the same reasons that apply in the case of the long period; but the stock of capital being fixed and new investment being zero, the marginal efficiency of capital must depend on the amount of this given stock and prices must be at a level which equates the amount of money, demanded for active balances at a rate of interest equal to this fixed marginal efficiency of capital, to the fixed supply of money in existence.

There is one other comment worth making. It leads to considerable difficulties to regard the marginal efficiency of money as wholly different in character from the marginal efficiency of other assets. Equilibrium requires, as we have seen above (proposition 3), that the prices of different kinds of assets measured in the same unit must move until their marginal efficiencies measured in that unit are equal. But if the marginal efficiency of money in terms of itself is always equal to the marginal efficiency of other assets, irrespective of the price of the latter, the whole price system in terms of money becomes indeterminate. It is the elements of elasticity (a) in the desire to hold inactive balances and (b) in the supply of output as a whole, which permits a reasonable measure of stability in prices. If these elasticities are zero there is a necessity for the whole body of prices and wages to respond immediately to every change in the quantity of money. This assumes a state of affairs very different from that in which we live. For the two elasticities named above are highly characteristic of the real world; and the assumption that both of them are zero assumes away three-quarters of the problems in which we are interested.

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[3] Unless we suppose that a constant money wage is compatible with a constant level of employment which is less than full employment.

THE MONEY TANGLE OF THE POSTWAR PERIOD

By SIR HENRY STRAKOSCH

I

IT IS ONLY in rare cases that the true sequence of current events is discernible by contemporary observers. The real turning points between phase and phase, particularly in the economic sphere, are difficult to define until after the lapse of years; and it may be that the monetary historian of the future will be content to summarize the eighteen years that have passed since November 11, 1918, as a period which witnessed simply the beginning and the end of an international effort to re-establish in relation to currencies the gold standard which the World War had shattered. But though it be true that "all the King's horses and all the King's men" have so far not availed to set the gold-standard Humpty Dumpty securely back on the wall from which he tumbled in August, 1914, it by no means follows that gold has no further role to play in the twentieth-century monetary affairs; and, if we are to profit from past failures and mistakes, it is worth while to endeavor, even at this stage, to dissect the successive phases, and their underlying causes, already emerging from examination of the postwar years.

For this purpose, leaving out of account the years immediately following the Armistice and forming essentially part of the abnormal and chaotic financial conditions of war, the period with which we are concerned may be divided conveniently into three phases, as follows:

Phase I—1922-1926: The Reversion to Gold

Phase II—1927-1931: The Mismanagement of Gold
Phase III—1932-1936: New Beginnings and Experiments

This dissection of the postwar period makes no claims to precision. To some extent, the three phases merge into one another; and many observers might be inclined to assign, as between turning points, a different arrangement of dates. For instance, the readoption *de jure* of the gold standard by France did not take place until 1928; the practical operation of the restored gold standard did not reveal fully until 1929 the defects which led to the collapse of 1931; and it might be held that, not until the final breakup of the surviving gold bloc in the autumn of 1936 was the monetary stage set for new beginnings in international monetary policy. When regard, however, is had to incipient tendencies rather than accomplished facts, the division of postwar monetary history into the three phases defined above appears to the writer to facilitate best the elucidation of causes and effects.

PHASE I: THE REVERSION TO GOLD

There is no need to recall in detail the debacle in currency standards that occurred during the World War. The European belligerents were forced to suspend the convertibility of their paper currencies, all of which depreciated against gold, partly because financing the War entailed inflationary expansion of note issues and credit, partly because abnormal imports required for war purposes drove down the exchanges. In the neutral countries, whose balances of payment benefited by the circumstances of war, a great influx of gold led to an expansion of credit and a consequential rise of prices almost as disturbing as that which, for quite different reasons, took place in the belligerent countries.

On these conditions of almost uncontrolled inflation, there was superimposed, after the Armistice, the short-lived trade boom of 1919-1920, in which a moderate revival of demand for consumers' goods, acting upon an industrial mechanism thrown out of gear by war-time necessities, led to a further steep rise in prices. This, in turn, aggravated the vicious circle of budgetary deficits, internal inflation, and exchange depreciation.

Under these circumstances, with the currencies of the defeated countries already depreciated to a fraction of their gold value and ominous signs of weakness developing in both the French franc and the lira, it is not surprising that the international conference of financial experts which assembled at Brussels, under the auspices of the League of Nations, in September, 1920, should have been preoccupied with the need for re-establishing public finances on a sound basis in order to secure, as between the then wildly fluctuating currencies "a system which facilitates the exchange of commodities." If a further rise in the cost of living (pregnant with menacing possibilities of social disorder) were to be averted, and if exchanges were to be restored to conditions of stability essential for the recovery of international trade and production, then an end must be put to budgetary deficits, and there must be no more recourse by governments to the printing press. Eventually, in the experts' opinion, it would be "highly desirable that the countries which have lapsed from an effective gold standard should return thereto"—the assumption clearly being that if that long-range desideratum could be attained, the gold standard could be relied upon to operate, as it did before the war, automatically and more or less effectively as a monetary "governor" on the machine. The question whether gold, in the altered conditions of the postwar world, might not itself require management if it were to be again an acceptable measure of values, was dismissed summarily with the statement that "we cannot recommend any attempt to stabilize the value of gold, and we gravely doubt whether such an attempt could succeed."

By the spring of 1922, when international monetary experts reassembled to survey the situation in the Financial Commission of the Genoa Conference, much water had flowed under the bridges. On the one hand, following the presentation of the London Schedules of Reparations Payments in 1921, the depreciation of the mark had begun to assume catastrophic dimensions, and the fall in the exchange value of the Austrian and Polish currencies was even more extreme. The budgetary insolvency of France had become increasingly apparent, and the exchanges of every European ex-belligerent, with the exception of sterling, were still sliding ominously downwards. On the other hand, the bubble boom of 1919-1920 had been pricked, and the prices of commodities had collapsed dramatically in all countries other than those in which continued currency inflation worked against the world price trend. Between May, 1920, and February, 1922, wholesale prices in the United States fell from approximately 270 to 140 per cent of their prewar level, and in Great Britain the movement was roughly parallel. The specters of "underconsumption" and unemployment—destined to become the grim familiars of the postwar world during the next fifteen years—had already raised their heads.

Hence the Genoa Conference report, insistent though it was that the restoration of budgetary equilibrium and exchange stability was a condition precedent to world recovery, introduced in its conclusions a note which had not been audible at Brussels. In once more enjoining countries which had abandoned the gold standard to revert to it, the experts at that Conference recognized that, if left to the free play of supply and demand, the value of gold was in danger of being subjected to wide fluctuations which might lead again to the losses and economic dislocation already witnessed in 1921. It was to obviate this that the Conference recommended co-ordination of the demand for gold, so as "to avoid those wide fluctuations in the purchasing power of gold, which might otherwise result from the simultaneous and competitive efforts of a number of countries to secure metallic reserves" as backing for currencies after reversion to the gold standard. The Report further emphasized the need of close co-operation of the central banks, as regulators of credit, "not only with a view to maintaining the currencies at par with one another, but also with a view to preventing undue fluctuations in the purchasing power of gold."

The story of the next five years in the montary and economic sphere is one of partially successful but ultimately inadequate international co-operation. The tale of the progressive rehabilitation of wrecked currencies need not be rehearsed in detail at this date. Suffice it to recall that in September, 1922, inflation in Austria was arrested by the aid of the first of the League's Reconstruction Loans, the next step being *de facto* stabilization of the Austrian crown in relation to the dollar. Similar League assistance was extended to Hungary in 1924; and in the same year, with the aid of the Dawes Loan, Germany achieved a stable reichsmark currency linked to gold in place of that finally wrecked by the occupation of the Ruhr. In 1925, Great Britain reverted to the gold standard at the prewar ratio between pound sterling and dollar. The Austrian and Hungarian currencies were now formally linked to gold, while nongovernmental loans from New York and London had been used to steady the Belgian franc and Czechoslovak crown. By the end of 1926, temporary *de facto* stabilization had been brought about by the Poincaré Government in France; Belgium and Denmark had stabilized *de jure;* and in 1927 the Italian lira and the Polish zloty both reverted legally to the gold standard. Legal stabilization in France was not enacted till June, 1928, but it is true to say that by the end of 1926 the great bulk of the civilized trading world was once again handling money stabilized effectively in terms of gold, though the parities selected by the ex-belligerents for stabilization ranged from 100 per cent in the case of Britain to 0.0000000001 per cent (in the case of the German reichsmark) of the prewar parity. And, it is important to note, in this process of rehabilitation of currencies foreign loans and credits had played a vital part.

From one aspect the insistence of the Genoa Conference on the need of exchange stability as a prerequisite of world reconstruction appeared during the years 1922-1926 to be justified by the results. In a memorandum I submitted to the Financial Committee of the League in June, 1928, attention was drawn to the fact that improvement in the stability of currencies had coincided closely with increasing economic progress. Comparison was made between a weighted index based on average monthly percentage variations in the dollar value of European currencies and an index (corrected for changes in gold prices of commodities) measuring —with 1922 as a datum level—the volume of Europe's foreign trade. The results were as follows:

	1922	*1923*	*1924*	*1925*	*1926*
Foreign Trade . . .	100	105.5	123.8	129.5	130.2
Currency Fluctuations .	13.2	10.7	2.6	1.4	1.6*

* Due to fluctuations in the French franc before stabilization.

From this point of view, the economic achievement of these five years was impressive, and in 1927 a further rise to nearly 145 took place in the foreign trade index. But even before the world's reversion to the gold standard was formally completed in 1927-1928, signs were discernible that all was not well with the painfully re-erected structure. Stability had been reattained, but it was a one-sided stability. No steps were being taken to give heed to the warnings of the Genoa Conference; co-operation between central banks was lamentably lacking; the purchasing power of gold was being left to take care of itself.

Between 1922 and 1925 gold prices (as measured by the U. S. Bureau of Labor index) advanced, with a downward fluctuation in 1924, by 6.7 per cent net. After 1925—the year of Britain's reversion to gold—there began that accelerating decline in prices whose final downward momentum led, six years later, to the gold standard's collapse. As measured by movements in the *Economist* index number of wholesale prices, gold appreciated between the end of 1925 and the end of 1927 by approximately 8 per cent. It was already clear that the "wide fluctuations in the purchasing power of gold," which the Genoa Conference had deprecated, were not being avoided. But this was only the first stage in a tragic process.

PHASE II: THE MISMANAGEMENT OF GOLD

Up to 1928, the decline in the price level of commodities had been more or less orderly. The seeds, however, of monetary disequilibria were being sown; the pound sterling (having regard to its internal purchasing power) had been stabilized at too high a level, and the French franc at too low a level; and balances of payments as between creditor and debtor countries were being disturbed, on the one hand, by the transfers arising from the reparations and war debt settlements, and, on the other hand, by the great increase in postwar tariffs and import restrictions. But up to and including most of 1928 the cracks in the structure were being "plastered over" by unconscious international cooperation in the shape of a great volume of international lending. Not merely did the United States between 1925 and 1928 lend on a vast scale to the debtor countries—notably Germany and Latin America—but, in the period between the *de facto* stabilization of the franc in 1926 and the legal reversion to gold two years later, France allowed her short-term capital, exported during the flight from the depreciating franc in 1925-1926, to accumulate in foreign countries. In 1928, however, not merely did there begin a wholesale repatriation of French short-term balances from abroad, but in the latter part of the year the development of a speculative "boom" in Wall Street led to an abrupt termination of the attractions of foreign investment for American funds.

From 1929 onwards the deflation of prices became violent. The appreciation of gold, which had been 4.0 per cent in 1928, increased to 7.6 per cent in 1929, and between January, 1930, and August, 1931, amounted to no less than 38 per cent. The economic phenomena accompanying that movement—a glut of unsalable commodities, agricultural distress and industrial unemployment, the disappearance of the profits of enterprise, and a serious increase in the burden of fixed interest indebtedness—are too fresh in the mind to require recapitulation. It is sufficient here to recall that the world's productivity, which had been increasing between 1923 and 1927 by about 3 per cent per annum compound, suffered a cataclysmic contraction.

That the phenomenon was essentially a monetary phenomenon is today scarcely in dispute, and though economic and political factors such as reparations, war debts, and the tariff manifestations of "economic nationalism" should not be overlooked, the part which they played was only contributory to the forces which ultimately led to the breakdown of the reconstituted gold standard.

Between the beginning of 1925 and the end of 1928, the trend of the world's monetary gold reserves was relatively favorable. The gold stocks of France and the United States combined rose from $4,800 millions to $5,000 millions; those of the rest of the world from $4,060 millions to $4,918 millions. In the early part of 1929, however, American funds were no longer being lent to debtor countries, the French balances which previously had sought refuge in foreign countries were being repatriated, and the strain of reparations and war debt payments became increasingly acute. In consequence, a reverse movement set in. The gold holdings of France and the United States rose steeply, while there was a correspondingly steep fall in those of the rest of the world. By midsummer, 1931, French and American gold reserves had risen to $6,805 millions, and those of the rest of the world had sunk to $4,197 millions, notwithstanding the fact that central banks in the "rest of the world" had in 1929 made desperate efforts to protect their gold holdings by the traditional means of raising bank rates and making credit dear. The wholesale liquidation to meet commitments thus set in motion reacted with cumulative force on commodity prices, but the flow of gold to the United States and France continued unabated; and though the policy of "protective" high bank rates was relaxed in Britain and most other "gold-losing" countries before the end of 1929, the vicious spiral of deflation took its tragic course. The disequilibrium in the structure of international balances of payment was too deep-rooted for traditional central bank remedies, derived from prewar gold standard experience, to be efficacious.

In that disequilibrium the predominant factor was the payment of reparations and war debts. The following figures illustrate clearly the tendencies of the time:

	MILLIONS OF DOLLARS	
	REPARATION AND WAR DEBT RECEIPTS	CHANGE IN GOLD RESERVES
Jan. 1, 1925, to Dec. 31, 1928		
France	557	+544
U.S.A.	807	—344
Jan. 1, 1929, to June 30, 1931		
France	343	+958
U.S.A.	555	+847

Up to the end of 1928 the two creditor countries on "War" account between them accepted reparation and war debt payments mainly in things other than gold. Or, more precisely (but with the same economic effect), America relent to the debtor countries more than she received on "War" account. But in the second of the two periods when America's flow of lending had dried up, not only were the whole of the war payments collected in gold, but the creditors taken together added another $907 millions to their gold stocks, the gold being received either for goods and services sold, or in repayment of credits withdrawn.

Now, if the influx of gold into the United States and France had been allowed to exercise freely its normal effect—namely, an expansion of credit and purchasing power and a consequent rise in their domestic level of prices—the drain on the gold holdings of the "rest of the world" might have been at least partially checked. The creditor countries' exports would have been impeded, and their imports would have been stimulated. But the creditor governments, unwilling to face the disagreeable reactions of this process on their domestic industries and employment, prevented the gold standard from functioning on these lines. Not merely was the gold received effectively "sterilized" —i.e., not allowed to be used as a basis for credit expansion— but tier upon tier superimposed on tariff walls precluded the growth of imports from the debtor countries, who were forced in turn to curtail their own imports in order to maintain their balance of payments, thus intensifying the process of world deflation.

A lamentable feature of the growing crisis was that it was being allowed to develop without any real attempts at co-operation between central banks. The leading central banks of the world had consistently obstructed the proposal made at the Genoa Conference that they should meet for the purpose of concerting policy. As a compromise, they supported, in 1929, the decision of the Financial Committee of the League to appoint a Gold Delegation charged with the task of examining and reporting upon "the causes of fluctuations in the purchasing power of gold and their effect upon the economic life of nations." Unfortunately, the work of that Delegation was throughout impeded by political influences exercised especially by France. It was apparently feared in that country that the Delegation might seek to impede the collection of reparations in gold, or even that pressure might be brought upon her to disperse in some way her swollen gold reserves. Be that as it may, the Delegation did not produce its Report (which was not unanimous) until May, 1932. By that time, a still more acute phase of crisis, heralded first by the Wall Street crash in the autumn of 1929, had developed. Finally a wave of panic set in motion by the troubles of the Credit Anstalt in May, 1931, led to a wholesale effort by commercial creditors throughout the world to liquidate their foreign assets.

From Austria the center of the disturbance passed swiftly to Germany. Throughout June, notwithstanding an increase to 7 per cent in its rediscount rate, the Reichsbank suffered from a growing drain on its holdings of foreign exchange and gold; immediate financial collapse in Berlin was staved off only by President Hoover's proposal on June 20 that there should be a year's moratorium on all intergovernmental debts arising out of the War.

Unhappily, President Hoover's intervention came too late to prevent continuance of the flight of capital from Germany, and the banking troubles of July followed inexorably, with the result that foreign assets in Germany became universally "frozen." With the financial crisis now similarly affecting Austria, Hungary, and Rumania, the strain of supporting panic-stricken attempts to liquidate short loans fell upon London, whose own short-term investments abroad were too largely immobilized. After £200 millions had been withdrawn from that center, Britain suspended the gold standard on September 21. By the end of October, the British Dominions (except South Africa), Norway, Denmark, Sweden, and Finland were all formally off gold; and by the early spring of 1932 (excluding exchange-controlled countries like Austria, Germany, and Hungary, still nominally but ineffectively on gold) the only countries of first-class economic importance still operating the gold standard were (with their colonial dependencies) Belgium, France, Holland, Italy, Poland, South Africa, Switzerland, and the United States. South Africa, finding that the fall of prices had bankrupted all but her gold-mining industry, was forced to abandon the gold standard by the end of the year.

PHASE III: NEW BEGINNINGS AND EXPERIMENTS

With the ramifications of the crisis which followed the collapse of the gold standard in 1931 there is no space to deal. For the present purposes, it is sufficient to describe the salient events and broad tendencies of the period. Following the Report of the Gold Delegation of the League—belatedly published in the summer of 1932—an abortive attempt was made by the World Monetary and Economic Conference a year later to reach agreement on international stabilization of currencies. When that Conference's Preparatory Commission of Experts met in January, 1933, it was confronted with the following situation: World unemployment had risen to at least 30 millions; international trade had shrunk to one-third of its 1929 value; wholesale prices of raw materials had fallen since 1929 by 50 per cent; world production had catastrophically slumped. The problems of international indebtedness, notwithstanding the fact that intergovernmental payments on "War" account were practically in abeyance, had become grave; and enterprise both in industry and commerce was being troubled by a growing network of "defensive" exchange restrictions, quotas, clearing agreements and import prohibitions. In these circumstances, the experts expressed the hope that—given a settlement of war indebtedness, and a reasonable degree of freedom in the movements of goods and capital—it might be possible to restore an international gold standard, with the proviso that measures should also be considered for ensuring greater stability of price levels in the future.

By the time the Conference actually met in June, 1933, the United States had been compelled to abandon the gold standard and resort to depreciation of the dollar in order to lighten the burden of a weight of internal fixed-interest indebtedness which the fall in commodity prices had rendered insupportable. Moreover, as between the gold bloc countries and those "off gold" a deadlock was immediately reached. The "gold" countries insisted on stabilization as a condition precedent to any international agreement either on price or tariff policy. The "off-gold" countries, for whom Britain acted broadly as spokesman, replied that the first essential was to restore equilibrium between costs of production and selling prices; that to attempt to achieve this by further deflation of costs (including notably wages) would, in the words of the British delegation "be attended by intolerable suffering and hold out no hope of success." The gap between these two points of view proved unbridgeable and the Conference failed to reach any monetary agreement.

The rest of the story can be quickly told. In the world as a whole, the lowest point in the depression was reached in the summer of 1932; but the forces of recovery which from then onwards manifested themselves were felt predominantly in the group of "off-gold" countries whose currencies were linked more or less closely with sterling. An unweighted average of wholesale prices in the gold group (France, Holland, and Switzerland) reveals a decline between 1931 and 1934 of 20 per cent, at which level it remained practically stationary until the summer of 1936. On the other hand, a similar index measuring the average for Britain, Canada, Sweden, and Denmark shows that between 1931 and 1932 prices fell by only 2 per cent, followed by a rise of 12 per cent up to last midsummer. Again, in the gold group industrial production fell by 26 per cent between 1931 and the third quarter of 1932, as compared with a decline of only 3 per cent in the sterling group; and, finally, up to the second quarter of 1926, the comparable percentages of recovery have been: gold group, 12 per cent; sterling group 50 per cent. In the United States, where recovery set in later than in Britain, the extent of revival since the first quarter of 1934 has been of the order of 25 per cent. The divergence between the experience of the gold and sterling groups speaks for itself.

It is now clear beyond dispute that the painful policy of continued deflation pursued by the gold group between 1931 and 1936 was mistaken and failed completely in its purpose. Despite every effort made to restore equilibrium between costs and prices by reducing costs, the countries in the gold bloc—handicapped as they were by the misfortune of possessing apparently "invulnerable" gold reserves—suffered increasingly from unemployment, dwindling industrial profits, the hoarding of cash resources and persistent budgetary deficits.

Finally, the strain became insupportable. The Government of M. Blum, elected to power in a France whose joint-stock banking deposits had been reduced by deflation from 38 billions of francs at the end of 1931 to 26½ billions in the spring of 1936, was confronted with the dilemma of sacrificing either the convertibility of the franc or the implementation of the social betterment policies to which they were pledged. They chose wisely; and, just five years after the pound sterling was forced to abandon gold, France—followed by the remaining members of the gold bloc—decided upon currency devaluation. The degree of devaluation so far applied varies between 20 and 30 per cent, and a margin has in most cases been announced within whose limits the intention is to confine exchange fluctuations. But, though devaluation has been accompanied in some cases by a declaration that the gold standard is not, in principle, abandoned, it is evident that the monetary wheel has turned full circle: the currencies of the world have reverted to all intents and purposes to the conditions which ruled prior to the general re-establishment of gold as a common monetary basis in 1925-1926.

II

Having thus sketched in summary and necessarily incomplete outline the course of monetary and economic history since the end of the War, it remains to consider what lessons are to be derived from the experience of these years of frustration.

General consensus of opinion will in all probability support the initial proposition that international trade is indispensable to our civilization, and that all current theories of national self-sufficiency are a delusion. In the seventy years preceding the outbreak of the World War, the population of Europe and the United States doubled; production increased eightfold (thereby increasing the average standard of life of the doubled population fourfold); but international trade increased sixteenfold. Without proportionately expanding international trade a rising standard of living for the civilized populations of the world cannot be maintained. Today, world productivity has rather more than regained its 1929 level—no inconsiderable achievement after the depths of the 1932 depression—but it is still 15 to 20 per cent below the level at which it would have stood had production progressed at the same rate as that at which it used to progress before the War, namely, about 3 per cent per annum. Yet, though revival in the domestic markets of the United States and the sterling group of countries has "taken up much of the slack" of the depression years, unemployment in those countries—to say nothing of the vastly worse position in the gold group—is still a serious problem and is associated unmistakably with comparative lack of recovery in the export industries. The gold value of international trade is still 60 per cent, and its volume still 10 per cent, below the 1929 level; and until some considerable part of that lost ground is made good, hopes of complete or durable world recovery are idle.

During the course of the depression, doctrines of self-sufficiency led governments to numerous strange and uneconomic expedients. In some cases, import restrictions were imposed to "defend" an adverse balance of payments; in others, tariffs and quotas were enacted in order to provide artificially favorable selling prices for a section of the country's producers; and in the case notably of Germany, self-sufficiency became a doctrinal "end in itself," explicable only on the supposition that war conditions were once again in contemplation. So far, little progress has been made in relaxing these artificial restrictions born of abnormal crisis conditions.

Thus, to some extent, an essential condition of recovery in international trade is a changed mentality on the part of statesmen. They must recognize that, if all countries seek to sell and none to buy, the inevitable result is paralysis of international commerce and the impoverishment of all. Even at the cost of some temporarily painful readjustments within internal economies, exchange controls must be abolished, import restrictions must be relaxed, and tariffs stabilized at a reasonable level before international exchange of goods can again contribute its due share in the enrichment of mankind. And with the relaxation of restrictions on the flow of goods between countries there must go resoration of freedom in the international movement of funds and securities—this being an essential condition for the renewal of confidence which alone will render possible an equally necessary revival of international lending.

But though, from the angle of international trade, the solution of our present problems lies, in part, in the political sphere, the experience of 1919-1927 points also to the vital importance of stable exchanges as a factor in trade expansion. Nothing has occurred to gainsay the validity of the recommendation made by successive assemblies of experts, from the Brussels Conference in 1920 to the World Economic Conference in 1933, that every endeavor should be made to obviate disturbing fluctuations in the exchange value of currencies, one with another; nor has any acceptable system other than an international gold standard yet been devised whereby stability can be assured.

The suggestion has been made that, in view of the postwar failure of the gold standard to function effectively as a means to the prosperity of nations, gold should be abandoned permanently as the basis for currency systems and an international "managed" paper standard be substituted in its stead. Theoretically, there may be a good case for this suggestion, and the favorable experience of the more or less "managed" sterling group between 1932 and 1936 can be adduced in its support.

There are, however, serious objections. Real management of an international paper standard would inevitably have to devolve upon one or other of the world's great commercial and financial centers—London or New York. Now the countries which, on the abandonment of the gold standard by Britain, spontaneously linked their currencies to sterling, doubtless did so not only because of their intimate economic and monetary ties with London, but also because of the similarity of their outlook in political, economic, and monetary affairs. But it would be quite another matter to expect other, differently situated, countries like the United States or France to link their currencies to a standard managed by the political and monetary authorities in London. And, *mutatis mutandis*, the same obstacle of political susceptibilities would have to be overcome if the management were vested in New York or Paris. Moreover, apart from "national" prejudices, a managed paper standard would demand a degree of public confidence in the "management" which it would not be easy to secure. Public trust in the wisdom of central bankers is not sufficient to warrant assurance that, in a paper standard system, steps taken, for example, to check a "boom" would be regarded, even by the people of the deflating country, as sound or tolerable; and suspicions would be deepened if the policy of deflation, however necessary, originated in a foreign center, whose lead had to be followed. Nor is it evident that there would be adequate confidence in the eventual stability of "managed" paper currencies. The British phlegm in currency matters is not world-wide, and one of the most remarkable features of post-war experience has been the deep-seated universal belief in gold to be purchased or even hoarded in the least stable of situations. It is significant, too, that practically all the countries which devalued in 1936 relinked their currencies to gold as a means of reassuring public opinion among their citizens.

The conclusion therefore is that any durable international monetary system will in all probability have to be based once more on gold as a common standard of value. But if a gold standard is to be the objective of monetary policy, it is imperative that such a standard should be re-established under conditions calculated to avoid a repetition of the 1931 breakdown.

There will probably be no divergence of view that the following conditions are indispensable for the satisfactory working of the gold standard, quite apart from that reasonable freedom of international intercourse already mentioned as a *sine qua non:*

1. Internal economic equilibrium must first be restored in all countries readhering to the gold standard. In other words, wholesale prices must have been allowed to rise to a level at which the profitability of enterprise is re-established and a normal level of employment among workpeople regained.

2. New exchange rates must be fixed corresponding to these equilibrium conditions in each country. There must be no repetition of the disturbances caused by the stabilization of the pound sterling at too high a level in 1925 and of the franc at too low a level in 1926. And this means that before stabilization *de jure* can again be discussed, an experimental period must be allowed

to elapse, so that internal prices in the various countries may have time to settle down and the exchanges to find their true equilibrium level.

3. There must be assurances that existing gold reserves are adequate, and that these reserves will be augmented by new supplies of gold sufficient to permit the world's economy to resume its prewar rate of expansion without disturbances arising from a shortage of monetary gold.

Happily, in this respect the situation is encouraging. Not merely has currency depreciation fostered the production of newly mined gold, but the whole picture presented by existing gold reserves has been transformed by events since 1931. On the assumption that the currencies of all countries are finally devalued on an average to 60 per cent of their former gold value, the position in September, 1936, compares with that in 1928 as follows:

MONETARY GOLD STOCKS

(Millions £'s)

	U.S.A. AND PHILIPPINES	GOLD GROUP	REST OF WORLD	TOTAL
Value of monetary gold stocks at end September 1936, with Sterling devalued to 60%	2,193 (41%)	1,088 (20%)	2,103 (39%)	5,385
Value of monetary gold stocks at end 1928, with Sterling at old par value	851 (37%)	325 (14%)	1,119 (49%)	2,295
Effective increase . . .	+158%	+235%	+88%	+135%

NOTE: These figures are partly estimated and include gold held in exchange equalization funds and western hoards.

There is no longer any immediate danger of a world deficiency of monetary gold, nor has the question of maldistribution of reserves between different countries the significance which it assumed in 1928-1931. Given agreement that no attempt will be made to build up gold holdings artificially for political (war) purposes—and this is implicit in the proviso already postulated that freedom of movement of funds as well as of goods will be restored—there is no reason why existing monetary gold stocks, even if supplemented annually by only half the prospective supplies of new gold, should not suffice for at least a generation to support a steady yearly increment of 3 per cent in the world's productivity.

4. There must be general agreement that "political" debts—the intergovernmental indebtedness arising out of the war—cannot be liquidated without causing grave injury to the internal economy of the paying and receiving countries alike.

If settled in gold, these payments, under an international gold standard system, exercise a deflationary effect on the rest of the world unless counteracted by a corresponding inflation in the gold-receiving countries; and should the latter be impeded, the standard must break down, as, in fact, it did in 1931.

If payment is made in goods and services, the receiving country can only absorb them at the expense of its own production and trade being, *pro tanto*, reduced. In the paying countries, on the other hand, the effect must be a disturbance in their balance of payments, which they necessarily endeavor to counteract by directing their monetary policy to depressing their price level; for thus alone can they hope to sell abroad as much of their production as is needed to finance imports they require, as well as to supply the creditor countries with the goods they are to receive in payment of reparations and war debts. Meanwhile, the debt-receiving countries, in these circumstances, are forced also to follow a deflationary policy, as otherwise they are in danger of losing their foreign trade. The result must always be a worldwide fall of commodity prices, not dissimilar from that created by payments of war indebtedness in gold.

It is clear, therefore, as a condition precedent to the reestablishment of exchange stability through an international gold or any other standard, that a final settlement of reparations and war debts must be reached on a basis which will be accepted as honorable by all parties concerned, and which will finally dispel fears that equilibrium can ever again be disturbed by attempts to make these uneconomic transfers.

5. There must be agreement that the prime object of monetary policy is to prevent violent fluctuations in the level of commodity prices.

This is by far the most important condition of all. The devastating economic, social, and political effects of the fall of prices which occurred throughout the world in 1928-1932 have already been outlined, but it may be useful at this stage to explore in somewhat greater detail not merely the reactions of the nations' economy to falling prices but the reasons which precluded readjustments in conformity with that movement.

Now a fall in commodity prices has clearly no effect on the physical equipment of the world. The land, factories, and transport facilities remain for all practical purposes what they were when prices were higher. Moreover the material desires and potential employability of the population remain unaltered.

The nature of the economic disturbance caused by a general fall in the price level is twofold. First, since the majority of transactions in a civilized community involve contracts expressed in terms of money and due for fulfillment after a stated lapse of time, falling prices—unless total productivity expands—increase automatically the share of the national income accruing to the section of the community which has fixed money claims. The beneficiaries, unlike the wage-earning class, will normally not exercise their increased purchasing power in buying more consumers' goods; for their wants in these directions are generally already satisfied up to the point to which they have become conventionally habituated. Other things being equal, they would reinvest in capital goods—bonds and shares—the increment which falling prices have placed in their hands. But just because prices *are* falling, they naturally tend to withhold reinvestment until they are reasonably assured that the bottom of the decline has been reached. It is obviously "better business" to be a holder of appreciating money rather than to participate in the production or acquisition of depreciating commodities. As a result, demand for finished goods is curtailed by the shift in the distribution of purchasing power, capital investment shrinks, and the active entrepreneur class reacts logically by limiting its purchases of raw materials.

Second, as total productivity is not increased, but diminished, there is bound to arise an economic friction between employers and employed over the distribution of the diminished residue left over after satisfying fixed interest claims. The employer finds that, even though the raw materials he needs for his manufacturing process are less costly, his profit margin disappears even with a smaller decline in "finished" selling prices for the simple reason that at least half of his production costs are normally represented by rigid items, including, notably, wages. He naturally seeks to secure wage reductions, but since rents and a host of other items comprised in the cost of living do not fall in step with a decline in wholesale commodity prices, his workpeople, understandably enough, resist what they regard as an attack on their standard of comfort. Industrial stoppages ensue; the production and interchange of goods are thereby still further impeded; economically necessary but socially deplorable wage reductions are partially enforced, and the entrepreneur is left to shoulder a big share of loss and consequently cuts down his operations.

These economic disturbances, inseparable even in the nineteenth century from a phase of falling commodity prices, were rendered much more acute in 1928-1932 by the fact that in the postwar world a peculiar rigidity has been imported into the price structure for reasons which may be summarised as follows:

a) Increased division of labor, with its corollary of increased overhead and relatively static charges;
b) Increased mechanization, coupled with larger individual units of production (again involving a greater ratio of fixed overhead charges);
c) An increased proportion of the world's economic activity devoted to services—i.e., distribution and selling—whose costs do not react rapidly to a fall in wholesale prices;
d) Increased use of credit (whose costs also are "sheltered") in the process of production;
e) Increased cartelization of industry, with the inevitable consequence that "finished" prices tend to move less sensitively than prices of "unsheltered" primary products.

The rigidity of the cost structure due to these causes was already developing in prewar days, but it was not acutely felt because fluctuations in the level of prices were only of a moderate character, and, in the decade and a half prior to the war, were in an upward direction.

It was this feature of postwar civilization—a feature which must be accepted as permanent—that contributed largely to the defeat of every attempt to force down costs *pari passu* with prices, not merely in Britain between 1928 and 1931, but in the gold group of countries after sterling went off the gold standard. In vain did the purist exponents of gold standard theory—as witness the Majority Report of the Gold Delegation even in 1932—

protest that the system would have worked perfectly but for the indefensible reluctance of some countries (meaning Britain in particular) to bring about adequate "flexibility" in their price structure. Postwar experience has amply demonstrated that it is politically and socially impossible to debase, even temporarily, the living standards of actively engaged producers, in order to restore equilibrium between costs and selling prices.

If, then, there be agreement that an appreciable general fall in the price level is a cause of unmitigated economic loss and waste, and that a violent rise in price (albeit less immediately fraught with unemployment and impoverishment) must ultimately strain the credit basis afforded by a stable currency and therefore entail an undesirable reaction in prices, the logical conclusion is that the avoidance of violent fluctuations in the level of prices must be the supreme aim of monetary policy. There is no question of endeavoring to stereotype in perpetuity the relationship with one another of every component item of the price structure, like units in a static feudal system; nor need we waste time in disputing minutiæ in arguments regarding the particular index number whereby price movements should be reckoned. The maxim, *de minimis non curat lex*, is apt for monetary policy as well as for legislation. The need is simply to maintain the price level sufficiently stable—and in such a calculation a 10 per cent margin of error is immaterial—to avoid the disturbing maladjustments of the past fifteen years.

If agreement on this prime condition, as well as on those already listed, can be secured—and it is already the agreed and publicly announced policy of the United States, the British Commonwealth, and the Scandinavian countries—then the eventual re-establishment of a workable international gold standard should prove feasible in the not too remote future. The devaluation of the gold group of currencies is calculated to foster in the countries concerned a rise in wholesale prices (but not proportionately in living costs) which should gradually restore internal equilibrium and facilitate, as their economic activity recovers its momentum, some relaxation of the import restrictions to which they tenaciously clung so long as their overvalued currencies were linked to gold at their predevaluation parities. The fact that the countries which have recently devalued have announced that their currencies will, for the most part, remain linked to gold at new parities (subject to variable limits), and that both the United States and the British governments have declared that they desire broadly "stable money" encourages the hope that there will be no risk of a competition in currency depreciation between nations anxious to capture an increasing share of exports. The monetary agreement concluded in September, 1936, between the United States, France, and Britain is welcome in that it portends, or should portend, continuous and close co-operation between these three countries—a useful first step towards co-ordination of policies with the common purpose of preventing violent fluctuations in the general level of commodity prices in areas whose combined share of world trade considerably exceeds 50 per cent of the total.

Finally, the existence today in the world's principal monetary centers of exchange equilization funds should act as a buffer against those movements of "nomadic" capital which played so inconvenient a role in the financial panic of 1931.

Nevertheless, it would be premature to look for the restoration of an international monetary standard based on gold until a considerable period of trial and error has elapsed. In the countries where devaluation is, historically speaking, a matter of yesterday, it remains to be seen what amount exactly of currency depreciation is necessary before internal equilibrium is regained, making due allowance for the fact that in the case of France, for example, the economic effects of recent social legislation on wages and hours of work have not yet had time fully to develop. Moreover, not only in the gold group but in all countries, it would be desirable, before reversion to gold, that balances of payments should be "tried out" for a year or two in existing conditions—especially if, as one may hope, a serious attempt is to be made to free international trade to some degree from its artificial restrictions.

For the present, therefore, the margin in the gold value of the various currencies which has been provided for in the devaluation enactments of the late gold group of countries is desirable; and it is equally desirable that, for a considerable experimental period, the exchange values of the dollar and pound sterling should be free to fluctuate within reasonably moderate limits. Indeed, it may well be that, in view of the inflexible nature of some components of the price structures, to which reference has been made above, the old rigid gold standard—with its narrow "gold points"—can never be restored. Even if it be at the cost of encouraging much greater international movement of capital than was the case in prewar days, the gold standard of the future may well have to be a much more elastic system, allowing wider "corrective" fluctuations in the exchanges than were possible under that which collapsed of its own rigidity in 1931. But, whatever modifications in the conventional prewar gold standard may eventually seem desirable, the bitter lessons of the past eighteen years will have been wasted if they do not convince governments and central bankers of all countries the truth of one lesson: No durable or sustained economic progress can be hoped for unless there is world co-operation directed towards realizing internationally President Roosevelt's ideal for the United States—currencies "which a generation hence will have the same purchasing and debt-paying power" as that at which the various nations are now in course of re-establishing internal economic equilibrium and, with it, their prosperity.

DENMARK

MONETARY POLICY AND ECONOMIC STABILITY

Reflections on Recent Experiences

By JØRGEN PEDERSEN

THE GOLD STANDARD AND ECONOMIC STABILITY

IT IS A general belief amongst businessmen that the prerequisite of prosperity and stable economic conditions in general is a gold standard or some other system of fixed exchange rates. The same view is even held by a number of economists. As far as I can see this opinion is supported neither by theoretical conditions nor by experience of the past.

As to experience, it is generally pointed out that during the régime of the gold standard prior to the World War economic conditions were stable and progressive, and that international trade was especially flourishing. From a scientific point of view this alleged coincidence of stable and fairly prosperous conditions can be no proof of the merits of the gold standard. The causality may be the converse; stable economic and political conditions may have made possible the maintenance of the gold standard.

Whether it is really true that economic conditions developed so smoothly during that historic period is an altogether different question. Economists and businessmen are not always good historians.

As I see it, conditions were not so harmonious as is often believed. There was probably relatively more misery and more bankruptcies in the depression of the later half of the seventies than during the late world depression, and the situation was not much better during the depression ten years later. The main difference between the situation then and the postwar period was that people were more patient, a sort of economic fatalism was ruling at the time; the economic disasters were not to the same extent charged to the system or the government, but were considered the outcome of forces beyond human control.

In spite of this economic fatalism, there is evidence that attempts to meet the difficulties by positive measures were not entirely lacking. Is there not some reason to believe that the revival of protectionism at the close of the seventies was connected with the economic depression? And what about bimetallism? Was that movement not directly generated by the alleged defects of the monetary system?

Be this as it may, however, I do not pretend to have exhausted the sources of the economic history of the period in question, but I feel justified in maintaining that there are no grounds for holding that the relative stability of the period was due to the gold standard; there is just as good reason to hold the view that the gold standard was a disturbing factor, and that its disturbing effects were kept within limits by the incredible patience of the people and by protection, and moreover that during this period the economic system was not exposed to the pressure of major political events.

As to the alleged favorable effects of the gold standard on foreign trade and international capital movements, I want to point out, first of all, that foreign trade is not an end in itself. There is no evidence that prosperity and welfare vary directly as the volume of foreign trade varies. Even if it were true that the volume of foreign trade is greater under a system of fixed than under a system of unfixed exchange rates, the case for the gold standard is not won; if internal conditions of the various countries are more stable without the gold standard, and their resources better employed, the latter situation may be preferable to the former.

But again: Is it really true that the gold standard is more conducive to foreign trade than a free monetary system? Have we not experienced the fact that every depression has been followed by a wave of protectionism? And was the same not the case in the depression beginning 1929? Tariffs were raised in a number of countries in order to mitigate the effects of the fall in prices and to "protect" the gold standard. New and powerful instruments for restricting imports, such as the tariff quota, were introduced. France made extensive use of the protective quota system before the breakdown of the gold standard in 1931, and even Great Britain was about to turn protectionist. A "national" government was formed for the protection of the gold standard and with a very protectionistic program.

As far as I can see, the chances are that foreign trade would have suffered even more than has been the case, had the gold standard been maintained. For it may be true that the countries which did not depreciate their currencies probably were forced into a stronger control of foreign trade than would have been deemed necessary if no depreciation of currencies had taken place; but it is highly probable that, on the other hand, the depreciating countries would have resorted to protectionism and import restrictions to a far larger degree, had they not depreciated. In the case of the debtor countries there was simply no other practical alternative left.

It is not denied that it is convenient to merchants to be able to calculate in fixed exchange rates, but it remains to be proved that this convenience can balance the disadvantages which the obligation to maintain fixed rates would have caused in other respects.

For all these reasons I contest the view that it is possible to prove empirically that the gold standard has been conducive to economic (and political) stability and (or) prosperity. On the contrary, in my opinion a better case may be made for the opposite view.

It remains to be seen if theoretical considerations give the same result. This question, I think, may best be elucidated by the figure on page 183 which illustrates the relationship between exchange rates, foreign trade, capital movements, wages, prices, and technical and political conditions.[1]

The rate of foreign exchange is a price, viz., the price of foreign currency expressed in national monetary units. Now it is reasonable to assume that there is a functional relationship between the supply of and demand for foreign currency and its price. This relationship is not the same with respect to all currencies; it depends on the volume and structure of trade with the country in question; but for purposes of illustration we may imagine an index computed from a weighed average of the rate of exchange of all countries.

We may thus assume that the income on current account of the balance of payment is a rising function of that index, here denoted by P, and that the expenditures on current account is a falling function of the same variable as described by the following figure where the abscissa is the above-mentioned index and the ordinates are units of the national currency K, and where the curves S and D stand for the income and expenditure on current account respectively.

The position of the curves may be influenced by various forms of state intervention, tariffs, export bounties, capital transactions, and so on. A "normal" stream of foreign lending or borrowing may, however, be included under the term "current account," but all these elements are assumed unchanged.

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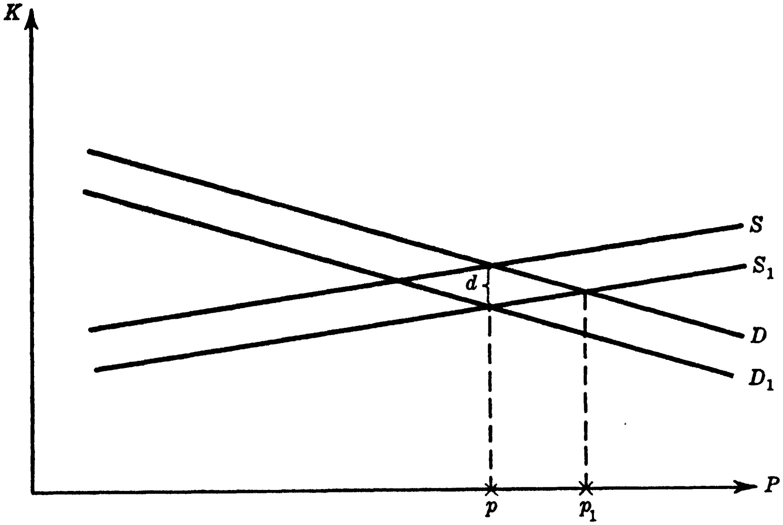
[1] The figures used for illustrating this article are of a purely skeleton character and do not by any means tell the whole story. Thus there is no reason to believe that the form of the curve remains unchanged when its position is shifted. Further, the two curves are hardly independent; a fall in export prices, e.g., will shift the supply curve downwards, but the reduced income of export industries will lead to a certain, although not proportional, downward shifting of the demand curve. Nevertheless it is hoped that the figures will facilitate the discussion of the interrelation between the exchange rates and other economic phenomena.



It is thus a static consideration; the curves show what the supply and demand would be by alternative levels of the exchange rates, all other things remaining equal, not what would happen to *S* and *D* during rising or falling exchange rates. In other words, the curve illustrates alternative *situations*, and processes.

As the amount of foreign exchange bought and sold must always be equal, the rate of foreign exchange *p* must be the abscissa to the point of intersection.

Now we know that other things (in this case wages, prices, tastes, harvest yields, technique, capital transactions, commercial policy, and the like) never remain equal. On the contrary, changes in one or more of these factors are constantly taking place, although sometimes the changes are inverse and thus cancel each other.

Let us consider a change. Assume that in some important area grain production is increased on account of a new technique or for other reasons, resulting in a heavy fall in grain prices that reduces the income of grain and other producers considerably. In a grain-exporting country that means a downward shift in the supply curve; how large a shift depends on the proportion of grain exports to total exports. Suppose that the S-curve is lowered to S_1 on the figure.

As there must be equality between supply and demand, the maintenance of the exchange rates requires that something else must be changed. If the fall in grain prices is considered temporary, and if there is a fair degree of international confidence, the natural measure to be taken is to cover the deficit d by foreign credit. But if the deficit is expected to be of a permanent nature, this measure could not always be applied. The next step will generally be credit restriction. By this means it will perhaps be possible to press the D-curve down to D_1, but that decrease in demand is caused solely by the unemployment and the shrinking of total income in the country caused, in turn, by the contraction of credit. It is a situation which cannot last. As a rule tariffs will be raised, reducing imports and making the production of goods subject to competition from imported goods more profitable, with the result that unemployment diminishes.

This policy, however, has an unfavorable effect on exports, because it increases the cost of production. The next step may therefore be some form of subsidizing exports.

The unemployment caused by credit restriction will serve as a pressure on wages. If wages yielded immediately to that pressure, equilibrium might be achieved in that manner. A fall in wages sufficient to keep employment stable would lower the D-curve and raise the S_1-curve. At what volume of transactions equilibrium would be re-established with the rate of exchange fixed at p, could not be stated in advance.

We all know, however, that a full and speedy adaptation of wages could not take place. A gradual and uneven reduction of wages may not lead to increased employment at all, and may even, in certain circumstances, lead to further contraction of employment and income. Thus if exchange rates are to be kept constant, a considerable shrinkage in foreign trade is almost bound to take place. A combination of tariffs and export bounties is probably the measure most favorable to foreign trade amongst those which have any chance of being adopted. There can be no doubt, however, that the measure which is most in harmony with a liberal order is a rise in the rate of exchange from p to p_1, at which equilibrium is regained without any further interference.

Let us consider another case. Take the situation in the United States in 1928-1929. The monetary authorities were hostile to stock-exchange speculation; they tried to stop it by credit restrictions. This caused a great rise in interest rates and an inflow of funds from abroad together with a cessation of foreign lending. This upset the equilibrium of the countries which had been constant borrowers, such as Germany, the Argentine, and Australia.

In these countries the position of the S-curve was strongly influenced by the constant stream of money from abroad. Consequently the cessation of borrowing was equal to a lowering of the S-curve. Again there was the alternative to currency depreciation—tariffs, quotas, credit restrictions, all of which measures were very detrimental to foreign trade and economic activity, not only in the countries in question but, by their repercussions, also in other countries.

A number of other cases could be constructed, but the result is clear. Any disturbance causing a downward shifting of the S-curve or an upward shifting of the D-curve must be corrected either by autarchic measures, unemployment, or by a raising of the exchange rates; and amongst these measures the latter is the one least detrimental both to international trade and to economic activity. The only measure which may produce a result equally favorable is the immediate adaptation of wages to the new situation, but that method is technically and politically impossible and would, moreover, lead to a change in the distribution of income to the advantage of the rentier class.

Perhaps one other case ought to be discussed, viz., that of a general depression. It is clear that under a system of fixed exchange rates the creditor countries are in a key position with respect to measures aiming at a revival. They alone are able to carry on an expansionist policy, because they are able to pay for the import surplus which may result from an isolated expansion.

The debtor countries, on the contrary, are doomed to autarchic measures or passive waiting for the lead of the creditor countries. If such countries are not under the obligation of maintaining stable exchange rates, they may carry out public works financed by borrowing, subsidize industry, and so on, without fearing depreciation of their currencies. In this case, too, we see that a system of fixed exchange rates leads either to autarchy or to prolonged unemployment, and it makes a positive economic policy—excepting autarchic measures—a privilege of creditor countries. A freeing from the obligation of fixed rates, on the contrary, makes it possible for all countries to combat economic depression.

To sum up: Stable exchange rates are not favorable to international trade, nor to economic activity in general. Stable exchange rates mean either an authoritarian economic policy or very unstable economic conditions. A choice must be made between the stabilization of exchange rates and the stabilization of economic activity. The two are incompatible.

COMPETITION IN DEPRECIATION

Why is it that so many economists recently have adopted the view that the reintroduction of the gold standard or other forms of stabilization of exchange rates will be beneficial? Have they entirely overlooked the facts mentioned above? Hardly.

I think that what has caused this support of the idea of fixed exchange rates is the experience since 1931. It will no doubt be admitted by most economists that the gold standard has many defects, but it will be maintained that the experience with fluctuating exchange rates does not prove that this system is to be preferred. On the contrary, it will be held by many that the depreciation of sterling and later on of the dollar caused great economic disturbances and has forced several countries into an authoritarian system or to extreme protectionism.

Naturally it is very difficult, if not impossible, to know anything about what would have happened had Great Britain not depreciated her currency. Would recovery from the depression have followed quicker and over a larger area, or would the world as a whole have sunk deeper into the depression or resorted to an authoritarian system?

No matter how these questions are answered, I think it must be admitted that the depreciation of sterling has caused great economic disturbances, and it is possible that on the whole the world would have fared better today had that event not happened. The disturbing consequences it may have had were probably not so much due to the depreciation of sterling, than to the way in which other countries have reacted against it, and to the supplementary measures Great Britain has adopted.

For it must not be forgotten that after sterling had been depreciated, the British government inaugurated a system of tariffs and quotas strengthened in their effects by empire preference. And in addition to these measures, which in themselves could not help having a dislocating effect on world trade and production, it demanded from the foreign countries from which England got most of her imports that they shift their imports from other countries to Great Britain, and thus forced them to interfere seriously with the normal channels of international trade.

These disorganizing measures were introduced not because of the depreciation, but in spite of it, and their adoption makes it difficult to test the effect of depreciation in isolation. For my part, however, I am of the opinion that even apart from these measures the depreciation would have had disturbing effects. But even so, that is not a case against depreciation in general, but only against that particular kind of depreciation which took place in Great Britain.

What was it really that happened in Great Britain in September, 1931? Was sterling overvalued at the time so that the depreciation may be conceived merely as an adaptation to the equilibrium rate? The answer to this question requires a definition of the equilibrium rate of exchange and a criterion for measuring the deviation from the equilibrium position.

As to the first question, the conditions of equilibrium could not be expressed in terms of price levels, for the prices which could be internationally compared are prices of goods subject to international trade, and it is clear that such prices are determined directly by the rates of exchange.

It has been suggested that the equilibrium of exchange rates is determined by the relative rates of wages. It is no doubt an improvement to consider wages instead of international wholesale prices. But it is clear that, in so doing, changes in the productivity of labor must be taken into consideration; for the reasoning underlying this suggestion is that when wages are raised in a country, exports will decrease. This will cause a deficit in the balance of payment, and then there will be a tendency for exchange rates to rise until the effect of the rise in wages has been balanced; but the rise in wages will not have that effect if the productivity of labor has risen equally or more than equally.

It will be realized, however, that it is very difficult to ascertain the changes in productivity; all that could be ascertained is the combined effect of changes in wage rates and productivity on the balance of payment. But if that is the case, we may as well define the equilibrium rate of exchange as the rate which equilibrates the current account of the balance of payments over a period of time.

This procedure does not entirely remove the difficulties, for in the first place the question arises as to the length of the period to be considered. The fact that a country say, on account of a bad harvest, or even two successive bad harvests, has a deficit on its current account, will probably not cause any tendency to a rise in the rates of foreign exchange. Secondly, in the short run it is not the relative level of *costs or income* that influences the balance of payments, but *total money income,* and that may be manipulated by expanding or contracting credit. It will be realized, therefore, that the level of employment must also be taken into consideration.

For these reasons I come to the conclusion that no exact or mechanical criterion of the equilibrium position of exchange rates or the deviation from it could be devised. This fact does not deprive the terms "over-" or "undervaluation" of their meaning, it only means that the position must be determined by an estimate of the entire situation.

Adopting this method we may ask the question: Was sterling overvalued in 1931? Certainly not in relation to the currencies of the debtor countries of continental Europe, Australasia, and South America. Perhaps in relation to France or to the United States? As to France it must be remembered that a fairly rapid inflation was going on from the stabilization of the franc in 1926 up to 1930. There was a great rise in both wages and the cost of living during that period, and any undervaluation of the franc which may previously have existed was rapidly disappearing.

Considering the British balance of payments we find that in the years before the crisis there was a surplus. There was, it is true, considerable unemployment in England during these years, indicating that if England had expanded credit to such an extent that full employment had resulted, the surplus might have disappeared or changed into a deficit. In 1930 the surplus diminished and simultaneously unemployment increased and in 1931 there was a deficit. But at the same time unemployment was increasing faster in a number of other countries. It does not seem reasonable, therefore, to speak of a serious overvaluation of sterling in 1931. It must be remembered that England was and is a creditor country and the exchange rates of creditor countries become overvalued less easily than do those of debtor countries.

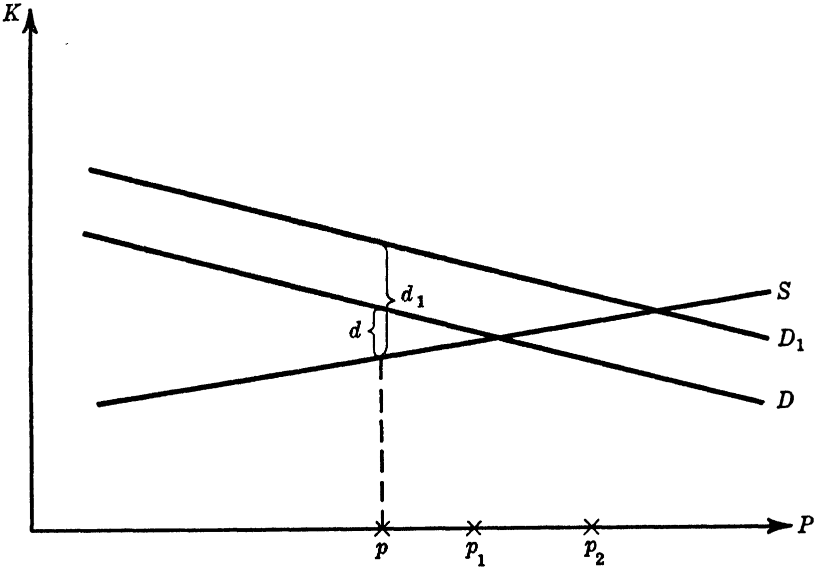
But even if we assume that sterling was somewhat overvalued in relation to the currencies of other creditor nations, subsequent events have proved that the depreciation of sterling which took place was far too heavy to correct any overvaluation that may have existed.

It is clear that if a state depreciates its currency only to the extent to which it is overvalued in the above sense, such depreciation does not put all other countries in a position that forces them to depreciate or that causes any other difficulties to their economic systems.

It is, however, a well-known fact that the depreciation of sterling not only forced a number of debtor countries to depreciate to an equal or larger degree or to introduce exchange restrictions, but that even the creditor countries, after a vain attempt to force down wages and budget expenditures, had to resort to a currency depreciation so that the rate of exchange between these currencies and sterling was not very different from what it had been before sterling was depreciated. If the depreciation of sterling had not exceeded the amount necessary to eliminate an actual overvaluation, other countries with overvalued currencies might have had to follow suit, but neither deflation nor depreciation would have been necessary in the creditor countries.

The whole situation may be illustrated by the diagram below.

Let p represent the position of the rates of exchange in England prior to the outbreak of the financial crisis in 1931; the



curves S and D, the value in sterling of the income and expenditure on current account of the balance of trade as a function of p; and d, the deficit on current account which was covered by use of reserves of foreign currency. Then in the Summer of 1931 the speculative withdrawal of short-term funds sets in; let this cause an upward shifting of the D-curve to the position D_1. On account of this increased demand for foreign currency which has nothing whatever to do with the real international economic situation, i.e., the relation of costs in England to costs in other countries, the deficit which has to be covered by foreign credits is at the rate of d_1 per year.

Such credits could not be obtained, and as a consequence p had to be raised. We are here considering a dynamic process, and the question of how much the exchange rates had to be depreciated could not be read from the figure, but will depend partly on the immediate sensitiveness of the supply of foreign currency, and partly on the reaction of foreign and native holders of sterling. As to the former, exports could hardly be increased at all immediately, but British subjects might be tempted by a rise in the rates of foreign exchange to part with some of their foreign assets. In the same manner imports must be expected to be rather inelastic in the very short run, whereas the holders of sterling are able to react immediately and will prefer to stop the withdrawal of funds from England when the foreign exchange rates have increased to a certain level.

Suppose that these reactions in combination lead to a rise in exchange rates from p to p_2. Consider next the situation in other countries. Before the outbreak of the financial crisis we assumed that British currency was overvalued to an extent causing the deficit on current account denoted by d. This means that some other currency or currencies were undervalued to the same amount. Suppose for illustration that the surplus was concentrated on one single country. A rise of exchange rates in England from p to p_1 would cause a disequilibrium in all countries, except the single country just mentioned, to the extent that a change in the sterling rate affects their trade position. By a corresponding simultaneous readjustment the whole effect of the British action would be concentrated on the country whose currency was undervalued; that country would have no reason to attempt to adjust its currency to the new situation, and no further disturbances would occur.

If, on the contrary, as a consequence of the withdrawal of funds from England, exchange rates are raised to p_2, equilibrium could not be obtained by an adjustment like the one described above. Equilibrium could, in fact, not be obtained at all. Exchange rates are in disequilibrium in all countries, and if they try at once to depreciate to the same degree as England, the latter country would, in the situation as it was, have been obliged to depreciate still further; for the withdrawal of funds required a shifting of British exchange rates in relation to other countries, and that shifting would, of course, have been prevented, if all other countries, by adjusting their exchange rates, had refused to let it take place. In fact, a number of countries kept their rates on sterling constant. Some, mostly debtor countries, even took the opportunity of raising their sterling rates, and they are right in claiming that they were forced to do so. Nevertheless, this adaptation no doubt caused an additional depreciation of sterling. The greater was the number of countries that followed the English example, the more was it necessary to depreciate sterling. If all countries had met the difficulties caused by the depreciation in Great Britain and other countries by a depreciation of their own currencies, a violent competition in depreciation would have ensued.

When once the financial panic is over so that there is a basis for an adaptation of the currencies, we may have the curious experience that, after several years of depreciation war, currencies are stabilized or nearly stabilized with about the same parities as existed before the depreciation movement began, so that, as far as the exchange rates are concerned, everything is as it was before. In the meantime much mischief has been caused, probably including a couple of revolutions. No wonder that currency depreciation is discredited and the stability of currencies is considered to be the most important step on the road to general economic stabilization.

It should be emphasized that this deplorable result is not the necessary outcome of alterations in exchange rates, but of the particular circumstances under which Great Britain depreciated in 1931 and the reaction of other countries to that event. On the whole the period 1931-1936 in many respects serves as a lesson in how monetary policy should not be conducted. Altogether too much importance has been placed on exchange rates, and all too little on reviving internal economic activity and avoiding disturbances abroad. Some countries have deliberately depreciated their currencies in order to gain from others in foreign trade, and other countries have depreciated only with a bad conscience and have therefore increased tariffs and introduced quantitative regulation of foreign trade in order to prevent further depreciation.

Most to blame is perhaps Great Britain herself; not because she left gold in September, 1931, for she was apparently forced to do so, but because at the same time she embarked on a severe protectionist policy including quota regulations and bilateral trade agreements for equalizing the balance of payments with individual countries. This policy caused great disturbances. If Great Britain, after the financial panic was over, had expanded credit and left her market open to all countries, as was her traditional policy, there would not have been the same necessity for depreciating in other countries.

Conditions would also presumably have developed more favorably, had the various countries expanded credit, left the exchange rates to take care of themselves, and kept away from autarchic measures. There is reason to believe that had this been done, an adaptation would have taken place within a reasonable period of time.

By reason of the policy which has been carried on, the idea of adjustment of exchange rates to changing economic conditions has been discredited, and the belief that fixed exchange rates are to be preferred to variable ones has gained undeserved support. A return to a gold standard or to any other system of fixed rates will in all probability lead to renewed severe crises, perhaps with the result that more countries will join the group of countries which regulate their economic life on an authoritarian basis.

ADJUSTMENT OF EXCHANGE RATES TO UNDERLYING ECONOMIC CONDITIONS

It has been demonstrated above that stable economic conditions are incompatible with fixed exchange rates except under a system of authoritarian regulation of economic life where the exchange rates have lost their economic significance. It remains to be discussed whether a fair degree of economic stability can be attained if exchange rates are adjusted from time to time.

We have seen that the stablizing effect of an alteration in the exchange rate is subject to the condition that the change is undertaken only in cases where there is a deficit (or surplus) on the current account of the balance of trade of a fairly lasting character.

If a country over a period of time incurs such a deficit, it should adjust its exchange rates before difficulties in obtaining credits to cover the deficit have arisen. A regular inflow of foreign capital on a moderate scale for developing its resources (not for raising wages) should not be considered a deficit.

If a country alters its rate for the above reason, other countries which are in equilibrium (having neither surplus nor deficit on current account) should adjust their rates immediately, so as to retain their position of equilibrium. Only the "surplus" countries should not alter their rates.

The original disequilibrium could also be corrected by an appreciation of the currencies of the countries having a surplus. In this case, too, the countries in equilibrium should adjust their rates upward immediately. It is, however, less likely that this method will be practiced.[2]

The procedure mentioned above should be followed, no matter how the deficit (or surplus) had originated. Even if it were due to a rise in wages, thus being of an inflationary character, no attempt should be made to retrace the steps and reduce wages. Economic policy should aim at preventing wage rises. Financial policy and credit policy alike should be mobilized for that purpose, but if wages have risen, none of these means should be applied to depress wages again; it would surely start a cumulative deflationary process. If reduction of wages is insisted on, the reduction should take place by decree, and if necessary it should be accompanied by expansionist measures. A reduction of wages by decree is, however, out of harmony with a fundamentally liberal policy.

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[2] If there is a surplus on current account, an adjustment may take place by letting wages rise, but if the procedure becomes general, it will lead to continual inflation. If the process is rather slow, it is perhaps not to be regretted or feared.

It follows from what has just been said that purely monetary transactions, such as transfer of bank balances from one country to another, or speculative sales or purchases of securities, should not be allowed to affect the exchange rates. Neither should such transactions be allowed to affect interest rates, financial policy, or any other form of economic policy. We have seen that if they were allowed to do so, this would have disturbing effects not only in the country in question, but also in other countries.

It is a necessary condition for a successful stabilizing policy that such monetary transactions should proceed without leaving any traces on real economic transactions. The first step necessary towards such a policy is therefore to find means of neutralizing such movements.

Technically there is no difficulty in fulfilling this condition. An agreement between central banks to let the central bank of the country from which funds are transferred draw on the central bank of the country (or countries) to which the money is going, would be sufficient. It would hardly be difficult to ascertain when credit should be put at the disposal of a country, and when it ought to depreciate its currency. It could in fact safely be left to the country itself to decide; for if it were considered a normal and legitimate practice to depreciate when the economic position requires it, no country would hesitate to do so rather than incur debt to cover the permanent deficit on its balance of payments.

The difficulties would be minimized by the circumstance that, if it were generally known that an agreement to that effect existed, capital flight would hardly occur to the same extent.

The same object might be attained by means of an international institution such as the B.I.S. Central banks should then keep surplus balances with the B.I.S., and central banks having deficits of a temporary nature, whether caused by poor harvests, temporarily unfavorable terms of trade with other countries, or speculative withdrawals of funds, should be allowed to draw on the B.I.S. But technically an international institution is hardly necessary for the purpose.

It may be maintained, however, that although a policy on these lines is technically possible, political difficulties make it utopian. There is no reason to expect that international co-operation and confidence to the necessary extent could be attained.

I fully realize the truth of that statement, but it should be kept in mind that maintenance of a gold standard requires no less international co-operation to deal with temporary disequilibria in the balance of payments, including such as are due to a speculative transfer of funds. It was the failure of such co-operation that forced sterling off gold, and there is no reason why it should be easier to deal with such transactions in the case of a gold standard than in the case of a system of variable exchange rates.

True, under a system of variable rates a speculative transfer of funds may take place under circumstances where the depreciation of a currency is expected; but again it should be remembered that in view of recent experience there is no reason to expect that confidence in a gold standard will prevent capital flight when a country gets into serious economic difficulties.

The difficulties in this respect are therefore hardly greater in the former than in the latter case. On the contrary, when the gold standard has been re-established, the countries that have adopted it will try to the utmost to avoid renewed breaking away from it. Therefore a greater degree of maladjustment may be allowed to develop in that case than where each country is free to adjust its exchange rates to economic conditions. Consequently when conditions have deterioriated to such an extent that a breakdown is feared, the withdrawal of funds will be much greater than when small adjustments take place whenever required in order to maintain equilibrium in economic conditions.

I am fully aware of the difficulties in the way of any rational monetary policy. I think, however, that it is important to combat the idea of an international standard. If adoption of such a standard can be prevented, I think that little by little people will get accustomed to the idea that exchange rates need not change very often or by any large amount, even if currencies are not redeemable in gold. Gradually then, a practice of cooperation between the leading central banks may develop; the nucleus is already formed in the understanding between the monetary authorities of France, Great Britain and the United States.

If, on the contrary, an attempt is made with a gold standard on a large scale, the result is likely to be that the next major disturbance will be met by a real transition to a system of fixed exchange rates on the basis of a state monopoly of foreign trade with a final liquidation of economic (and political) freedom.

THE FEAR OF INFLATION

It is often claimed that if currencies are not attached to gold, there is a great danger of inflation; for when exchange rates are free to vary, there is no brake on the expansion of credit. When a normal degree of employment has been reached in the various countries, wages will rise, and when that process is not stopped by credit contraction necessitated by the obligation to redeem notes in gold, it will go on and never cease until the currency in question has been destroyed.

It is true that a certain danger of inflation exists, but it is not particularly connected with the variability of exchange rates. In the creditor countries there is a sufficient amount of gold to cause an enormous inflation, and it is not improbable that, because the gold reserves of these countries seem nearly inexhaustible, less care will be taken to avoid the development of an inflationary process than if the monetary system were not connected with gold, and the exchange rates were left free to vary.

The measures necessary to prevent inflation, therefore, are the same whether the notes are redeemable in gold or not. Gold is in fact hardly a bulwark against inflation, for if wages have risen, it is extremely doubtful whether a country will seriously force through a reduction by credit restriction or similar measures, rather than leave the gold standard once more. Recent experience does not make a policy of wage reduction attractive.

One of the aims of monetary or economic policy in general, whether a country is on the gold standard or not, should be, therefore, to combat inflationary tendencies by all means save by deflation. It is no easy task, for the people of the Western world have a great liking for increased money incomes.

In order to prevent a rise in the level of money incomes, the government must employ all means available. If profits are generally abnormally high and unemployment reduced to a reasonable reserve, so that a competition for more labor amongst the employers does not mean increased production but only rising wages, interest rates should be raised so as to prevent such increased demand for labor.

If, on the contrary, profits are only abnormally high in certain trades, taxes should be employed. All dogmatism as to the right kind of taxes should be avoided. Taxes on the raw materials of the industry in question may be an effective instrument. On the whole there should be a close correspondence between the monetary measures and economic policy as a whole. The idea of the autonomous central bank must be abandoned. The central bank should be considered as an instrument for carrying out the economic policy of the government and should work in harmony with other political measures.

It is not likely, however, that any government, the prime object of which is the fullest employment and development of the nation's resources, will succeed in preventing a rise in the level of income. If it succeeds in keeping the process of inflation at a very slow tempo, there is no great danger connected with this. The prospects that this will be possible are fairly good. Apart from wars there is no historical evidence that serious and uncontrollable inflation has ever taken place. At any rate, the fear of a slowly rising level of money incomes should not be met by a policy that prevents a considerable fraction of the people from taking part in the productive life of the nation.

SUMMARY

In this article it is generally assumed that it is an accepted aim to stabilize economic life under conditions that permit the people to find work under circumstances as favorable as natural resources and international connections permit. An attempt has been made to show that the gold standard is not conducive to that aim. It prevents each national unit from adapting itself to changing economic conditions except on an autarchic basis, which is very detrimental to a natural division of labor.

No conclusions as to the effects of a general policy of variable exchange rates could be drawn from recent experiences, mainly because the depreciation of sterling took place in order to meet a capital flight and therefore created great disturbances within other economic systems. An adaptation of exchange rates to the "equilibrium rate" does not cause economic disturbance, but promotes general economic equilibrium. It is the kind of system, therefore, that is best suited to the general aim of economic policy.

The successful carrying out of that system requires, however, co-operation between the monetary authorities of the various countries for the purpose of dealing with purely monetary transactions between countries. The same condition is necessary for the maintenance of a gold standard.

The prevailing desire for increasing money incomes creates a tendency towards inflation; in the interest of a stable economic development this tendency should be combated, but this problem is not easier to solve under a gold standard than under any other monetary system.

GERMANY

GERMANY'S PRESENT CURRENCY SYSTEM

Its Development and Its Reform[1]

By H. SCHUMACHER

I

THE CRISIS through which the theory of economics is passing today is caused largely by the fact that, in deducing its laws, the classical school paid little attention to the conditions under which these laws hold good, while the great changes through which economic life has passed find their expression primarily in these conditions. The classical doctrines consequently suffer from undue simplification, a fact which only too easily leads to an inadequate recognition of their great historical merits. This applies above all to the theory of money.

The classicists in particular knew of only *one* type of gold standard. They usually meant a currency consisting solely of a circulation of coins (gold coins and change coins). Only to this condition does the classical theory of the balance of payments apply, which requires the automatic reversal of the flow of gold, thus restoring equilibrium in each individual country, and also ensuring to a high degree international conformity of prices.

It is well known that the validity of this theory is limited as soon as the circulating means of payment consist not only of coins but also of bank notes. In this case a decreasing quantity of gold can be accompanied by an increasing quantity of means of payment, and vice versa, so that the international movements of gold lose their balancing character and assume a tendency of finality, thereby causing the danger of an accumulation of gold in one country and a shortage of gold in another. International conformity in the formation of prices is thereby eventually prevented. This danger can be avoided only by *ad hoc* measures. "Automatism" alone is not sufficient. Modern gold currency, which is always supplemented by a well-developed system of note issue, has never lacked a certain degree of "management." Its object is to produce artificially what was promised by the classical theory. The first means toward this end was discount policy; but exchange management and open-market operations have not been unknown in Germany since the end of the last century. Nevertheless, such a monetary policy remains subject to restrictions as long as it is a gold currency with the circulation not only of gold and change coins but also of bank notes, commonly called a "pure" or "genuine" gold standard, i.e., as long as the unconditional redemption of bank notes in gold is legally guaranteed.

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[1] Completed December 1, 1936.

Economically, however, it makes no difference whether gold redemption is voluntary or rests on the strength of the law, if it is effected to the extent necessary to equalize the peaks arising in the balance of payments, and to prevent changes in the rate of exchange beyond the gold points. In its economic consequences actual redemption in gold has the same effect as legally guaranteed redemption. This variety of the "genuine" or "pure" gold currency appears most frequently in the form of the "gold standard currency," i.e., all gold is withdrawn from circulation and concentrated—in the form of gold coins or bars—in one central depot, usually the central bank of issue. Like all concentration, this measure entails a certain saving. The gold standard currency, in which the gold basis remains in the home economic area or in that of the mother country, may be termed the normal gold currency in countries in periods of impoverishment. A cheaper currency is, however, also a weaker currency. It cannot be maintained without "management." Though the initiative may still lie with the public, nothing in the field of foreign exchange can be done without the consent of the central authority.

And here a fourth type arises. Its special feature is that not only is the right to redemption in gold abolished but redemption itself. Nothing remains of the "genuine" or "pure" gold currency but the mere fact that a store of gold lies in the hands of the central body which is entrusted with the regulation of the currency system. If this body manipulates the store of gold in such a way that the fluctuations of the rate of exchange remain within the limits of the gold points, that same stability of the rates of exchange can be achieved which is so often proclaimed to be a special characteristic of the gold currency standard, particularly of the "genuine" or "pure" gold currency. In this case, in which redemption in gold is abolished, or at least suspended, we have to deal with a paper currency with gold "management." Management is, so to speak, isolated and independent. This currency system which has in principle abandoned the connection with gold, but which in practice maintains this connection by means of management, is, because of this outstanding feature, rightly termed "managed currency." It is characterized by a maximum of elasticity. It is the system to which England reverted on September 21, 1931, when, for the time being, the gold standard was suspended.

But with this system of "managed currency," the development of currency systems did not come to an end. Managed currency carefully avoids the risk which, in times of a lack of natural balance in world trade, attaches to the gold currency; but it is still a currency system of prosperity, in so far as it requires a store of gold large enough to meet demands of so unusual a volume as was practically unknown before the War. A country which has not the economic power to establish and maintain a sufficient store of gold must go a step further if it wants to escape the fateful danger zone. If it cannot neutralize dangers which threaten the stability of the foreign exchange rates of its currency by movements of gold, it must forestall such dangers. That is to say, it must extend "management" to such a degree that no foreign claims which might cause fluctuations of the rate of exchange exceeding the gold points can arise. This cannot be achieved by a currency "management" restricting itself to single measures taken at long intervals. Management must secure greater scope and be developed to the point of continual and comprehensive supervision. The immediate step is to extend it to the sphere of international payments in such a way as to place all foreign-exchange movements under central control. Such supervision of foreign exchange, seeking to limit the demands for and to increase the supplies of foreign currencies, must, in course of time, lead to conflict, because payments are only the results of preceding economic transactions. One-sided regulation of these results, regardless of their origin, must lead to increasing disturbances the longer such regulation lasts and the more strictly it is carried out. The supervision of foreign exchange consequently gives rise to tendencies to extend the supervision from the field of foreign exchanges to the economic relations with foreign countries in general. Out of such supervision there grows ultimately a regulation and control of all foreign trade. This is logically the final stage in the development.

It is undeniable that stability of the rates of exchange can be attained by means of such supervision of foreign payments, indeed of all foreign trade relations, such as could scarcely be more effectively achieved under the "pure" gold currency. Such a compulsory system, however, is nothing but an emergency measure which will be borne only by a nation which, through a long course of distress, has formed the conviction that any form of international conflict is worse than internal compulsion, and which realizes that even an unusual degree of sacrifice is preferable to a breakdown of the currency similar to that which had been experienced but a short time before.

Whereas the "pure" gold currency has proved an effectual means of drawing nations together, such an emergency currency is a measure leading to strictest isolation. While the one results in an international price level, the other tends towards a dissolution of all natural international connections and, the longer it lasts, forces a nation more and more to fall back upon its own resources.

If we review the path we have pursued, we perceive that an understanding of the facts underlying a currency system sometimes becomes more important than the mere theory of currency itself, and that today this theory must draw many more distinctions. According to our deductions, we can—apart from bimetallism—distinguish between the following currency systems, each of which is subject to its own special laws:

1. Gold currency with circulation of gold and change coins.
2. Gold currency with circulation of gold and change coins and bank notes.
3. Gold standard currency with circulation of bank notes and change coins, where the gold basis may be located either in the home economic area or in the mother country.
4. Paper currency with "management" by means of a store of gold (managed currency).
5. Paper currency with foreign-exchange control.
6. Paper currency with total control of foreign trade relations.

II

How did it happen that Germany was forced to follow this long and painful course of development with respect to its currency system right up to the final stage? No country takes this course voluntarily. What were the compelling forces?

They do not lie in the narrower field of currency. When, at the end of 1923 Germany finally overcame inflation, she established a currency capable of coping with the normal problems of economic life in a way similar to that of any other European currency. But there were as yet no such normal conditions in the economic life of Germany. The compelling forces lay beyond the province of currency in the field of the balance of payments, or rather in the economic facts which were reflected in this balance.

If we divide the balance of payments into its three main components, we may say that only with regard to the balance of services has it been possible in postwar Germany to return to a normal development. In this partial balance, which refers primarily to transport services, there has been a continual surplus. From 1923 to 1930, in the seven years between the stabilization of the currency and the financial collapse in Germany, this surplus amounted to a total of approximately 3,000 million marks without the benefit of artificial support. After a substantial decline, it was again raised to almost 500 million marks for each of the years 1934 and 1935, by reason of comprehensive action by the state. Of this sum, for reasons which will be explained later, approximately 200 million marks were obtained from foreign travelers. The smallest of the three partial balances therefore has placed a not insignificant surplus at the disposal of the two other partial balances. The fifth annual report of the Bank for International Settlements quite justifiably called this factor the most important "invisible" asset in Germany's balance of payments which was used almost entirely for the repayment of short-term debts.

The partial balance of the movement of goods (trade balance) which compares the value of the imports and exports of goods presents a different picture. Here the changes which followed the War had a marked effect. Germany had suffered, through loss of territory in Europe, greater losses in production than in consumption by her population, especially as a substantial portion of the lost population returned to Germany. Germany mainly ceded surplus areas, thereby enhancing the deficiency character of her economic system and the passive tendency of her balance of payments. But this change was taken by the nation, as soon as it began to recover from its fall, as a compulsion to increase its remaining power of production by all possible means. Germany would, however, have overcome even the difficulties of her trade balance. The natural regulative forces, the theory of which the classical school had evolved primarily with respect to the balance of trade, would have sufficed to establish a state of equilibrium if they had been given free play outside the German frontiers.

The greatest difficulties arose from the third partial balance, the balance of capital movements, including interest payments (capital balance). This balance had suffered profound changes in a twofold respect as a result of the Treaty of Versailles. First, the enforced liquidation of most of Germany's capital investments abroad had removed the former assets in her capital balance. Whereas until the war these assets had contributed to her supplies of foreign raw materials and food, her position as creditor country was now lost. Second, Germany was saddled with a war indemnity of untested magnitude, which burdened the capital balance with a permanent debit item. In the whole of economic history nothing comparable can be found. Never has a nation been confronted with such a problem of economic readjustment, intensified by the formal difficulty that the amount of the war indemnity remained unfixed for years.

The classical theory of automatic international readjustment was not applicable to this case. It had been created to explain the phenomena of normal trade, and it remains valid for regularly recurring minor disturbances as long as certain rules of the gold standard are internationally adhered to. It need not be emphasized that a theory of reciprocal adjustment cannot hold good for disturbances of any size. But the classical school, by reason of the modest scope of trade and capital movements in its period, did not consider it necessary to study these limitations in detail and to gain a clear perception of the ultimate consequences of the process of self-adjustment. Today we know by experience that exceptionally large disturbances of equilibrium, originating in the balance of capital, result in movements of gold which merely replace an export of goods by an export of metal and cannot, by influencing price levels and the direction of exports, bring about their own adjustment. If a severe disturbance of equilibrium is caused by the capital balance, and, in particular, by additional one-sided obligations, there is greater danger that the flow of gold will assume a final character than if it is caused by the trade balance which by its very character is governed by the principle of reciprocity. And the greater the influences on the price level of the gold importing country, the more powerful become the forces acting against a corrective import of goods, by reason of tariff duties and similar measures. If this happens the natural process of adjustment fails, and it is then the duty of the state to take measures to establish some kind of adjustment, even though not a perfect one. This may be advisable even while the process of self-adjustment is still going on. The country may suddenly be faced by such tremendous economic disturbances that they cannot be borne by its economic system, especially if intensified by the flight of domestic capital and the adoption of trade restrictions by foreign countries. The process of adjustment does not fail in such circumstances, but it leads—and this was not sufficiently taken into account by the classical theory—to so many serious disadvantages, that the highly praised advantages, which develop far more slowly and less completely than the theory assumed, cannot achieve a decisive effect. It then becomes the duty of the state to "regulate the regulative process." This often requires no less comprehensive and incisive measures than the attempts to replace them.

Doubly harmful effects can arise out of the disproportionate character of disturbances. First, because the disturbance is excessively great in relation to the store of gold available for currency purposes. Before the collapse of the gold currency is brought about by the natural process, the state usually stops the drain of gold, even if it is doubtful whether this will enable the gold currency to be maintained in the long run. The disturbance can be so great that the only problem is to find the smoothest path to a paper currency. But, second, the disturbance may be disproportionately great in comparison with the total volume of foreign business relations, or, at least, the regular foreign trade of the country. It then causes such tremendous changes in economic life that they cannot be borne either internally or externally—not by draining off gold, but by a disastrous fall of the rates of exchange and a consequent drain of goods. Here again, the state cannot remove the pressure and the detrimental effects originating in the capital balance, but can merely direct them into a form which appears to involve the least disadvantage, i.e., to slow down, distribute, and soften the effects.

What now are the various measures adopted when the natural process of regulation fails or leads to consequences which appear to be unbearable? First, one can imitate the natural process of regulation by trying to find assets to meet unbalanced liabilities through restriction of imports and promotion of exports. In this case the difference between the artificial and the natural processes of regulation consists only in the pace and extent of their action. In retrospect it can be said that no possibilities were neglected in Germany as regards the balance of trade. A reduction of costs of production in the interest of exports was attempted by all means of private enterprise and public economic policy. There were many hindrances to be overcome. Sharp wage reductions always met with opposition, and the lack of capital in German business life, a consequence of the War and the collapse, always strictly limited the possibilities of a reduction of the rate of interest. The efforts towards a restriction of imports met but modest success, as long as, in the main, everyone had a free hand. In any case it was not possible by these means to obtain results powerful enough to be of decisive influence.

It was certainly an easier task to create counter assets in the capital balance. The urgent demand for capital in Germany coincided with a strong desire in foreign countries to find profitable investment for the great amount of capital that had accumulated in consequence of the war. This applied particularly to the United States, whose position as the greatest debtor country had overnight been transformed into that of the greatest creditor country. The United States was limited in the utilization of her capital surpluses, for the former allies in the main had dropped out of consideration, since the United States still had large claims upon them, claims which were based on deliveries of war materials and were not collectible for the time being. The economic reputation of Germany, on the other hand, had gained rather than lost through the War; and the high rates of interest she was willing to pay in her distress were all the more attractive to a nation that had as yet gained no experience as an international creditor. The situation was similar in those European countries which had remained neutral during the War. In these countries, too, a demand existed for investment opportunities and, as in the case of the United States, an admiration for the achievements of Germany, as well as the desire to contribute towards the recovery of the ruined world. Thus Germany had no difficulty in obtaining foreign capital. The urgency of supply was sometimes even greater than the urgency of demand.

This situation facilitated to an unexpected degree the creation of counter assets in the German balance of payments. The course of events was really astonishing. Vanquished and ruined Germany received in the seven years after the termination of her inflation and the stabilization of her currency—from 1924 to 1930—26,800 million marks of capital from foreign countries, which was more than she had invested abroad before the War (about 25,000 million marks). Thus Germany created artificially, by means of credits, the necessary counter assets in her balance of payments.

The foreign capital served a double purpose. First, it relieved the pressing shortage of domestic capital and thus had to fulfill manifold functions in private enterprise. It aided adaptation of the German economic system from war to peace conditions, a process only inadequately carried through during the period of inflation. Not only was investment capital replenished but also the stock of working capital, which had been almost entirely wiped out during the inflation. The foreign trade apparatus, consisting of trading settlements, subsidiary companies, and so on, was also at least partly restored.

In serving such purposes of private business, foreign capital also served purposes of national economy of quite a different type, which alone interests us here. The credit items in the German balance of payments, which the balance of capital movements so urgently required, for reasons already explained, were thus created by private borrowing. The German demands for foreign currency were balanced in this way by a compensating demand for German currency. By reason of foreign lending in hitherto unprecedented volume the equilibrium naturally lacking in the German balance of payments was restored, so that until 1931 the stability of the rates of exchange could be maintained at the old level.

Up to the end of 1930, German foreign investments were raised, thanks mainly to foreign loans, to 8,600 million marks, about one third of German foreign investments in 1913. As, at the same period, German debts to foreign countries amounted to 26,800 million marks, the net inflow of capital in the seven years mentioned was 18,200 million marks, to which sum must be added the 3,000 million marks of revenue for services during these years mentioned above. Thus in the period 1924-1930 no less than 21,200 million marks of assets were available to compensate debit items in the German balance of payments. How were they utilized from this point of view? Of these 21,200 million marks, which were put in private business to the most varied uses, the sum of 10,300 million marks was used for payment of war indemnity in the balance of payments of the national economy as a whole. Thus almost half was merely a transitory item, so that it was the private creditors abroad who rendered possible the payment by Germany of political debts in foreign money to foreign governments. Furthermore, Germany was enabled by means of these credits to buy from abroad food and raw materials for sums exceeding the value of her exports by 6,300 million marks, thus meeting demands which had accumulated in the periods of war and inflation and thus rebuilding depleted stocks. The sum of 2,500 million marks was used to strengthen the position of the Reichsbank, i.e., to increase its stock of gold and foreign currency. Another 2,500 million marks were finally utilized for payment of interest on foreign commercial debts. Only these foreign credits enabled Germany to regulate her payments in this manner. By these means a regulation was achieved without interference in the free exchange of foreign currency, but a regulation of very questionable value.

III

The questionable feature of this artificial regulation from an economic point of view was to be found in the fact that the credit which is indispensable in the balance of payments for the adjustment of small differences was here abused on a grand scale. As credit never brings a solution, but only postpones solution, the deciding question was whether or not a mere postponement facilitated a solution. The volume of credit incurred precludes an affirmative answer to this question. Thus the solution by means of credit, however understandable it may seem under the psychological conditions of the period, was totally misleading. It was economically unjustified and even incompatible with the principles of the Dawes plan. A technical deficiency was added to these fundamental shortcomings which resulted from the general uncertainty of economic conditions the world over and the breakdown of all traditions. Nobody dared to look further into the future, and the world in general lived from hand to mouth. Capital was unwilling to relinquish its free mobility, by reason of general currency conditions. Thus short-term credit gained, as never before, in importance over long-term credit.

This also applied to the credits taken by Germany. Of German foreign indebtedness, amounting in the middle of the year 1930 to 26,800 million marks, only 10,800 were long-term, and no less than 16,000 million were short-term. There was no equal scope for the use of short-term credit in public and private enterprise in Germany. The facility of obtaining short-term foreign credits in ever-increasing amounts led the borrower to conclude that it would be easy to replace expiring loans. This offered a great temptation to regard the shortness of the terms of credit as an insignificant feature of a merely formal nature, and to use the available credits for the purposes which seemed most urgent, irrespective of their short- or long-term character. One had been accustomed for so many years to working under the pressure of risks unknown in prewar times that it was natural not to shrink from the risk attached to the long-term utilization of short-term credit, particularly as foreign creditors seemed quite in agreement with the procedure. Warnings were not lacking in Germany: the Reichsbank was conscious of the danger, but it did not command the means to take effective measures of restriction.

But it would be erroneous to regard the grave crisis of July, 1931, simply as a banking crisis caused by long-term use of short-term credit. Much more was involved, as can be gathered from what has been said above—the problem of how to meet the claims of foreign countries on Germany. She attempted in every way to meet these claims. But the payments which she made for war indemnity were obtained, from the viewpoint of national economy, mainly not from German resources but were borrowed from abroad. They had to be earned by exports of gold, goods, or services. But neither the resources of Germany nor the absorbing capacity of foreign countries sufficed for such exports. This enormous borrowing therefore not only concealed the true situation, but also led to a growing uncertainty which was more and more felt by foreign countries. The disequilibrium of world economy which the War had caused was not relieved, but, on the contrary, seriously aggravated.

In the case of Austria, uncertainty grew into fear. The collapse of the *Kreditanstalt* in Vienna caused misgivings amongst Germany's creditors. They began in particular to withdraw short-term credits. At the shortest notice, 3,500 million marks were repaid, 2,000 millions out of the funds of the Reichsbank, 1,000 millions out of the foreign assets of the banks and 500 millions from other German assets abroad. It became the most urgent problem to prevent a further drain of foreign currency through withdrawals of foreign credits and the spreading of panic at home.

In solving this problem, two courses were pursued. First the state took action. It resorted again to the policy of management of the foreign exchanges, a policy already followed under the pressure of war and inflation from February, 1917, to February, 1927. Above all, the state introduced strict prohibition of the flight of capital to foreign countries. In order to render these measures effective, it was decreed that all foreign currency received through exports must be registered and delivered, so that a monopoly of transactions in foreign currency was established. Second, negotiations were initiated with foreign creditor banks in order to bring about a voluntary termination of the withdrawals of credits. These so-called "standstill" negotiations (*Stillhalteverhandlungen*) related to 6,300 million marks of short-term credits granted by foreign banks; but the "standstill" creditors also demanded that other foreign creditors should not be preferentially treated.

It could soon be seen that these emergency measures were only the beginning. What had sufficed in the inflation period, when foreign indebtedness was of no importance, did not suffice in a period in which the principal dangers arose from foreign indebtedness. In twelve executive decrees and two emergency decrees currency management was made progressively more serviceable in order to eliminate part of the demand for foreign currency and to increase its supply. The complicated mass of decrees was finally co-ordinated and made uniform in the decree of May 23, 1932, concerning management of foreign exchanges. Its purpose was control of all payments to foreign countries.

With the year 1933 begins the second period of management of foreign exchanges characterized by a greater independence of organization and comprehensive strictness of all measures. It was initiated by a progressive decline of the surplus of the German trade balance. Whereas this surplus was in 1931 239 million marks, and in 1932 89 millions on the average per month, it declined in the first months of 1933 below the figure required to meet the obligations of the Dawes and Young loans. In order to counteract the consequent dangers to the currency, the organization of the management of foreign currency was tightened up and the measures more strictly enforced. For this purpose the Reich Department of Economics (*Reichswirtschaftsministerium*) was relieved by the establishment of a special Reich Bureau for the Management of Foreign Currency (*Reichsstelle für Devisenbewirtschaftung*); the Reichsbank was relieved by the establishment of a special clearing office for the management and control of clearing accounts (*Verrechnungskasse*). Simultaneously, in clear recognition of the fact that the smuggling of currency is far more difficult to check than the smuggling of goods, the various penal regulations were standardized in a uniform penal code for offences in matters of foreign currency. But activity was not limited to these measures. Although the state as yet refrained from manipulating the trade balance because of complications in trade policy which might ensue, it attempted by all available means to restore the equilibrium in the other partial balances. In order to achieve this with regard to the capital balance, a special account (*Konversionskasse für deutsche Auslandsschulden*) was introduced for German foreign debts by the law of June 9, 1933, whilst a complete moratorium was rejected. All obligations of payment therefore which Germany had incurred towards foreign creditors remained in force. As before they still had to be repaid fully by the German debtor, but they could no longer be paid directly to the foreign creditor. Instead they were to be paid in reichsmarks into an intermediary account. Repayment of capital (with the exception of "standstill" credits) must be effected into blocked accounts for the proceeds of securities (*Kreditsperrkonto* or *Effektensperrkonto*). All other debts, particularly interest, dividends, regular redemption of capital and similar recurrent payments have to be made to the *Konversionskasse*. Since the middle of 1933 only 50 per cent, and since the end of 1933 only 30 per cent of these sums have been transferred in foreign currency; the rest is mobilized by the issue of scrip. Since the first of July, 1934, all direct transfer has been stopped. Now the whole paid-up sum is remitted in the form of bonds (so-called *Fundierungs-bonds*) which bear the guarantee of the Reich. By these radical measures a state of equilibrium in the capital balance was brought about.

This procedure which Germany was forced to adopt naturally met with much opposition. At home the ever-more intricate regulations, the ever-more complicated formalities, and the increasingly numerous and severe penalties gave rise to anxiety. Abroad creditors were not satisfied with formal acknowledgment of these private debts and their full payment in reichsmarks, but demanded full transfer, that is to say conversion of the mark payments into foreign currency. This was the main reason why Germany was urged by many countries to conclude clearing agreements, which, in themselves, were by no means considered an improved instrument of trade policy, as has been erroneously assumed. They were called for by the foreigner, primarily to secure the payment of current trade debts, but also in connection with the German capital debts. If a country showed greater imports from Germany than exports to her, as was normally the case in Europe, it was in a position to withhold the balance accruing in favor of Germany and to offset it against its claims. This balancing against capital claims is definitely fixed in several agreements. Thus the capital quota in the German-French clearing agreement amounts to 15¾ per cent of German exports to France. In this manner a little more freedom was introduced into the strict regulations with regard to capital payments. This system, however, involves in itself the danger of leading to new German debts on current trade account.

Clearing agreements vary greatly in detail. Nothing more need be said of those in which the accounts are settled at the official rate of exchange. But there are agreements, particularly with the Balkan States and with South and Central American countries, in which accounts are settled at a market rate of exchange which originated when the foreign exporter sold the reichsmark claims which he had received for his goods on reichsmark account to a person abroad who wished to import German goods. If the foreigner cannot dispose of his marks at full value he may have to sell at a discount. This "clearing-check discount," as it is called in transactions with Jugoslavia, is determined by the relative volume of the business transactions between the two countries co-operating in the clearing system. It is therefore only of local importance and is usually subject to official control. In the countries without exchange restrictions the clearing system, which as a whole represents one great mutual balancing of claims, is replaced by a system of individual offsetting. Such a system is most easily developed in cases where we have to deal with the current transactions of a parent company with its foreign subsidiaries. In this and similar cases, the payments for foreign goods delivered in Germany are made into so-called "Special Foreigner Accounts for Inland Payments" (*Ausländersonderkonto für Inlandszahlungen-Aski*). A current private business clearing is effected in which, for reasons already mentioned, a discount can arise (*Aski-Mark-Disagio*). In transactions with British India this amounted to 15 per cent, with China to 18 per cent, with Mexico to 25 per cent, and with the United States at times it increased to 33 per cent. It may be said that the operation of the mechanism of the classical theory of the balance of payments can be found in the development of these discounts; they are sometimes necessary to ensure the necessary exports, and if they were canceled foreigners would not be able or willing to purchase German goods.

As a result of these developments payment for 60 per cent of German exports is now effected through clearing, and a further 20 per cent through private offsetting transactions of various kinds. Of the proceeds for the remaining 20 per cent, half is devoted to interest payments, so that only 10 per cent of the total proceeds of German exports are available in the form of free foreign currency. Germany has recently tried to increase the sadly diminished inflow of free foreign currency as much as possible. The Anglo-German agreement of November 1, 1934, and the German-Belgian agreement of July 27, 1935, have been made to serve these ends. Similar agreements have recently followed with Japan and Canada, and also with Ireland and Manchuria. In all these agreements the attempt is made to reintroduce payment in foreign currency by both partners in place of clearing payments. Perhaps they will be regarded in the future as the modest beginning of an important act of liberation.

But we should proceed with the description of the development of German compulsory measures as they evolved with pitiless logic. A final stage was by no means reached with the establishment of the *Konversionskasse* and everything connected with it. The situation in Germany with regard to the supply of foreign currency grew progressively worse. The stocks of gold and foreign currency of the Reichsbank, amounting in 1930 to an annual average of no less than 2,806 million marks, and which in March, 1933, were still 836 million marks, had dwindled to 77 million marks by the end of June, 1934. Meanwhile the increase of imports, particularly required by the measures to provide additional employment, rendered passive the trade balance which had been active from 1930 to 1933. The grants to trade of foreign currency, which up to February, 1932, had amounted to 100 per cent, and which since then had without alteration amounted to 50 per cent of the imports of 1931-32, were now reduced month by month finally to 5 per cent; nor was allotment according to the monetary supplies of foreign currency any longer available.

The uselessness of preventing payments as long as imports remained unrestricted was recognized. Such a procedure could only lead to the accumulation of new debts in consequence of unpaid imports of goods; and even greater than this danger was the menace to the supply of raw materials for German industry.

Once again a remedy was urgently needed, and it could be found only in proceeding from the management of foreign exchange, which turned out to be inadequate and caused increasing uncertainty, to the regulation of foreign trade as a whole, despite the dangers to trade policy which this step implied.

For this purpose Dr. Schacht drew up his "New Plan" in September, 1934. By this plan imports were, first of all, to be adjusted to exports (to which the "service" items must be added). "We must buy only what we can pay for" was the first slogan. The necessary restriction of imports was as far as possible to be managed with regard to their relative urgency. The second slogan was, "Let us buy first what we require most." Finally Germany's capacity to consume was to be made servicable to her ability to sell, so that, with every individual country, imports would be adjusted to exports, thus counteracting the imminent dangers arising to general trade policy. The third slogan, therefore, was "Let us buy from our customers."

If imports were to be made directly dependent upon exports, such a restriction of imports would inevitably lead to a promotion of exports. A policy of this kind had above all to pay attention to the main hindrances to German exports. For many reasons, almost all originating directly or indirectly in the lost war, German industry no longer produced cheaply, as before the War. This difficulty developed to disastrous proportions when one foreign country after another depreciated its currency in various ways. Even if business could have been relied upon to overcome the existing difference in costs, its power was not sufficient—unless it enjoyed a monopoly position—to cope in addition with the sudden differences arising in currency values. Since the state did not consider it feasible for political and economic reasons to follow the same currency policy, it felt itself justified and obliged to take other kinds of remedial action to bridge the gulf between home prices and international prices. The means for this purpose were not at once available; they had to be created first. As it was not considered desirable to burden the community with taxation, this could be achieved in three ways. First, a great exporting union could be formed. This was done by means of a subsidiary fund for exports established by business itself. All branches of business, excepting trade alone, participated with contributions which were fixed primarily according to the volume of their profitable home business. This adjustment system, developed decades ago in cartels, now takes the first place in the promotion of exports; what was formerly limited to small individual circles has now received general application.

But there are also two other forms of export promotion which, because of their special character, have been the object of particular attention and widespread misapprehension. The one seeks to utilize the great chances of profit which may result from additional business in foreign trade for the purposes of facilitating international barter transactions. The other is less easily understood. It is based on the blocked reichsmark accounts which foreign creditors hold in Germany. For these claims only very limited opportunities of utilization exist; they have for the foreigner a high degree of illiquidity. If he wishes to liquidate these *Sperrguthaben* or registered marks he can do so only by allowing a very considerable discount to anybody willing to purchase them and pay in foreign exchange. This discount varies according to the nature of the claim and the degree of difficulty in disposing of it. It therefore expresses the urgency of the need for liquidation, depending on the personal situation of the individual foreign creditor, and the means of disposing of the claim, depending on the general situation in Germany. The discount therefore, which results from the "blockage" of reichsmark accounts belonging to foreigners—the so-called *Sperrmark-* or *Registermark-Disagio*—has nothing to do with the German currency unit, the reichsmark. It expresses, rather, the chances for foreigners of liquidating German assets. The difference resulting when the foreign creditor is giving up part of his assets, while the German debtor pays in full, is also utilized in certain forms for the promotion of exports.

By these measures for promoting exports it was possible to achieve what, according to the classical theory of the balance of payments, would have been attained under the gold standard by movements of gold through the resulting pressure on home prices, or under a paper currency by unfavorable movements of the rate of exchange. Here again artificial regulation offers a general, though not always infallible, substitute for the process of natural regulation with its indeterminable train of consequences. Thus is attained the objective—that no sound export business fails because of noncompetitive prices. This is, in fact, achieved by cheapening export goods to an extent which generally does not exceed half the price difference caused by the depreciation of foreign currencies. To call this form of export promotion "dumping," shows a misunderstanding of its economic character.

All these measures, with their complete control of all incoming and outgoing foreign currency, were intended to combine a restriction of imports with a promotion of exports, and required quite novel organizations which were bound to attain great importance.

Certain special commissions had been formed before for supervising the ever-more intricate business transactions. These supervisory commissions were composed of suitable officials and practical businessmen. This system of so-called *Ueberwachungsstellen* is now extended to cover every article Germany imports. This is today, in connection with the superordinated *Reichsstelle für Devisenbewirtschaftung*, the most important and characteristic part of the great compulsory organization which Germany was compelled to build up in order to preserve her existence. The extent of this organization is indicated by the fact that 25 such *Ueberwachungsstellen* are in operation today in Germany. The largest has a staff of about 300.

Thanks to this organization, Germany has today been transformed into a closed trading community (*Geschlossener Handelsstaat*) to a degree of perfection which has never before been sought. The country has separated itself from the ties of world economy so that it is on the whole able, out of its own resources, to maintain a stable rate of exchange and to organize freely its internal economic life in independence of disturbances of currency policy. It has even been possible, despite all difficulties, to supply Germany with foreign raw materials and foodstuffs for meeting at least her most urgent needs. These achievements which, in view of the actual state of affairs, can only be described as successes, can be enjoyed by Germany only because she is willing to bear heavy economic armor, the pressure of which is felt always and everywhere, and which narrowly hampers free action. Foreign countries will not, in the long run, refuse to view this patience, which is born of deep insight into the nation's fate, with sympathetic admiration.

The realization that whatever can be done at home must be done has given rise to the last link in the whole chain of developments: the "Four-Year Plan." This plan seeks to ease the shortage of raw materials, which grows the more severe as they rise in price because of the general market developments and the changes in German imports mentioned above; and it seeks to achieve this object in the only way that it can be attained—by our own efforts. The Four-Year Plan is to produce in the home country what we cannot obtain from abroad, not by individual efforts as hitherto, but by a co-ordination of all national forces. In some cases, especially in the initial stages, this will be possible only at higher prices and at the expense of quality; but it is quite rightly said that in emergencies prices are not the deciding factor. The first objective is to provide what is indispensable and otherwise unobtainable. Especially so because without adequate raw materials the great campaign against unemployment cannot be continued with undiminished vigor.

Under this new emergency plan all supplies are to be carefully administered, all kinds of waste products are to be systematically utilized, and all the forces of science are to be applied to the problems of production. For this purpose a central organization has been created under the dictatorial leadership of the Prussian Prime Minister Hermann Göring which externally reminds one of war administration, but which is far to surpass the latter in systematic and co-ordinated organization. What was formerly achieved by the pressure of war is now replaced by the recognition that there is no alternative for the German nation, in view of the course its fate has taken. It is realized that the shortage of raw materials and the difficulties of exporting cannot be removed in this way. It is even recognized with concern that in the course of time the danger may arise that the spirits called to one's aid cannot be dismissed, and that, because of the amount of capital invested, one may be forced to continue the same policy even when the necessity no longer exists. But there is the determination to make every effort not to be subdued by fate, and hope is not abandoned that better solutions may be found which lie beyond our own resources.

IV

A solution which leads away from compulsion and gives greater play to the free forces of economic life can only be found if several conditions are fulfilled. These conditions, without which any attempt at a solution would be doomed to failure, are usually embraced in the one term, "state of equilibrium." Such a state of equilibrium of economic forces must be effected both within the various national economic systems and to a certain degree internationally. We have to deal therefore with conditions which a nation can create out of its own resources, as well as with those that can only be attained by the united efforts of the leading countries. If the border line between these two groups of conditions were clearly defined, the task would be simpler than it appears today. The confusions and tensions of the present time have in many respects blurred this border line and have confused national and international problems. This applies particularly to the two most important problems—to free the capital balance and the trade balance of risks—that could at any time overthrow even the most carefully constructed gold currency system.

The reorganization of the capital balance belongs to the group of national problems, for it deals with private debts. Germany has always recognized this. She has never repudiated the obligation to repay her great commercial indebtedness which, as mentioned above, in the middle of 1930 amounted to almost 27,000 million marks, although the contraction of this indebtedness was to a very considerable extent linked up with war indemnity payments. She did not content herself with words, but had them followed by actions. She reduced these debts to less than half by February, 1936, namely to 12,400 million marks, which represented 6,300 million marks short-term debt, and 6,100 million marks long-term. Thus her indebtedness has been reduced by fully 14,000 million marks in the period. Part of this reduction was achieved without action on the part of Germany: about 4,000 million marks were mere paper gains resulting from the depreciation of foreign currencies. But fully 10,000 million marks were redeemed by actual payments, quite apart from new debts incurred since 1930, which were also repaid during the same period. In view of the really difficult position of Germany during this period, this is an achievement to which recognition cannot in the end be denied. The reduction of debts was partly attained, as already explained, by the willingness of the creditor to reduce the sum due to him if he could thereby transfer his claim in a manner corresponding to his needs. Thus, for example, the "standstill" credits mentioned above were reduced in the period in question from 6,300 to 1,700 million marks when they were made available, as so-called registered marks, for traveling in Germany and for other purposes.

Since January, 1936, the volume of debts has been further reduced. The depreciation of the French franc and the subsequent depreciation of other gold block currencies has caused a reduction of parts of the remaining debt, expressed in terms of marks; and, above all, repayments have continued. Thus there remains a sum which roughly corresponds to the war indemnity payments of the years 1924-1930. If one bears in mind that under normal trading conditions there must always be a not insignificant volume of short-term indebtedness, we may say that in the trying field of international debts, the indispensable prerequisite for a sound currency system may be achieved in the not too distant future. Nevertheless, some time will be needed for full repayment of these debts. Here a certain amount of acceleration would be desirable. It could only be obtained by an agreement with the foreign creditors as has often been reached in similar cases before. A long-term loan with a low rate of redemption and interest, corresponding to the debtor's ability to pay, would have to be issued for the remaining volume of debts, as has been suggested for the French war debts to America by William C. Bullitt, American Ambassador in Paris, in the *Agence Economique et Financière.* International co-operation in this field would not only be in the interests of Germany but also of world-wide recovery. From the German viewpoint it is also to be hoped that the international capital market in London flourishes again. It could play a role in the recovery of the world that one can scarcely overestimate, and it has indeed already quietly begun to do so.

In dealing with the German capital balance, we have so far spoken only of Germany's commercial debts. This is indicative of the real situation. For the problem of private debts has to an increasing extent displaced the problem of political debts. When a solution to the problem of political debts by means of international negotiations could not be found, Germany resorted to national self-help. She had paid 10,300 million marks between 1924 and 1930, quite apart from all the earlier payments, by incurring private commercial debts as shown above. The nation did its utmost until it collapsed.

The gold standard can function internationally only if the dominating element is a flow of goods developing naturally out of the different economic systems, and if the capital movements are limited to a volume which is a feature naturally accompanying this flow of goods. In the same way certain fundamental conditions must hold good in the international commodity markets. The dislocation of world trade caused by the war produced the condition that for years the formation of prices took place in each individual economic system mainly according to national considerations. The wide uniformity of price levels which ruled throughout the civilized world before the War had almost disappeared until the country most severely affected by this development, England, set out to find a remedy for the great territory comprising her empire, an attempt which seems in the main to have been successful. If Germany does not wish to exclude herself permanently from international connections by means of the measures described above, she must also endeavor to bring the general price level of her economic structure into some harmony with the price levels outside her frontiers. Otherwise a danger will remain against which no currency system, however carefully devised, can hold out in the long run. Permanent differences between national price levels, just like excessive political debts, lead to movements of gold of a final character and to the senseless accumulation of gold in one country and dangerous shortage in another.

The adjustment of the domestic to the world price level constitutes a problem unknown before the War. At that time, wide uniformity of prices had developed naturally along with the international expansion of the gold currency; it was a natural by-product of the gold standard. But after the War, which shattered the currency system of the whole world, man was forced to rebuild artificially what had previously grown organically. The means available for this purpose are primitive—deflation, devaluation, and inflation. Each country has to apply itself to the problem according to its needs; others cannot give it more than slight support. The task cannot be accomplished overnight; it can only be solved cautiously and by degrees. *De jure* stabilization must normally be preceded by *de facto* stabilization. Only in this manner can permanent success be achieved.

This difficult task has been rendered easier by the recent rise in the prices of many commodities, particularly those which had previously fallen most sharply. The problem of establishing a balance between prices and costs, which is normally more difficult than that of establishing a balance between different prices, has largely been eliminated. Unless monopoly is present, only those prices tend to be permanent which yield a reasonable, not an excessive profit. Obviously it is preferable for the community as a whole if this state of profitableness is attained by lowering costs than by increasing prices. The old truth remains that a sound economic system shows on the whole a gradual but constant fall of prices. This truth is easily forgotten in a severe crisis, for a rise of prices is then the universally desired goal. One of the hardest duties of political and economic leadership is to ensure that the path which is in the interests of the whole community is followed here.

These problems, which must be solved before the currency system can recover, are accompanied by many others, for such is the nature of the interwoven structure which we call national economy. They can be dealt with only in so far as they refer directly to the currency. Questions of tariff policy, therefore, do not belong here, in so far as they are identical with prewar problems which had to do exclusively with public finance and the protection of home industry. But as far as they are linked up with currency measures they do belong to our subject, and this is frequently so today. The majority of the present measures of trade policy, which involve so many severe restrictions and trade barriers, are emergency measures caused by currency changes abroad. They would logically disappear with a reorganization of the world's currency system. What remains should be dealt with from other angles than currency policy. Resoluteness in drawing the line will always be needed.

The provision of raw materials and food for Germany is connected with all the questions dealt with above. But this problem embraces such a mass of detailed questions that it can be effectively treated only in a different context.[2]

Only if the conditions mentioned above prevail can a reorganization of the currency system be attempted. The first requirement is an adequate gold fund. The present situation in Germany is scarcely favorable in this respect. The Reichsbank had the lowest note cover of all the world's central banks at the beginning of 1934, according to the Bank for International Settlements. Since then its gold stocks have decreased from 237 million marks in March, 1934, to 63 millions in September, 1936, to which should be added a mere 6 millions of foreign currency, i.e., claims always realizable in gold. The gold cover of bank notes in circulation thus amounts only to one-half of 1 per cent. Yet the situation does not appear hopeless.

First, the international gold market has improved appreciably.

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[2] The author has attempted to provide a basis for these studies in a series of volumes published under the title *Wandlungen in der Weltwirtschaft* (*Changes in World Economy*), Bibliographisches Institut, Leipzig. Seven volumes of this series appeared in 1936.

When, a few years ago, the menace of a gold shortage loomed large, it appeared as if a loss of gold would create an international situation warranting some anxiety. But since 1932 the world's gold production has regularly exceeded the production of the peak year, 1915. In the years 1929-1935 production had increased by no less than 50 per cent. The expectation of further increases in South African gold production has led the President of the Bank for International Settlements to recommend careful and well-considered action in view of the prospects of superabundance.

The enlarged stream of new gold has been further augmented by two streams of old gold. One comes from India, China, and Egypt, and in 1932 reached a volume of nearly 1,200 million Swiss Francs (old parity), which is almost equal to the total world production of new gold during the same time. It is still of importance, though its volume has since declined to a half.

More important, however, for the future, will be the second flow of old gold which may be expected—the release of hoarded stocks which will develop in Europe as soon as confidence returns with the recovery of the currency system. According to the estimates of the Bank for International Settlements, the net volume of newly hoarded gold in 1933 alone amounted to 3,000 million Swiss francs (old parity), and all the gold hoarded up to the beginning of 1934 amounted to at least 7,000 million Swiss francs, or more than two and a half times the value of the current annual gold production. If these sums flow back into the money market it will reach a high degree of liquidity. Simultaneously the gold accumulated in the central banks will press towards redistribution. Of the world's total gold stocks, which at the end of 1935 amounted to 69,000 million Swiss francs, almost two-thirds—44,400 million Swiss francs—were owned by two countries, the United States (31,000 million) and France (13,400 million). This may perhaps be described as the outstanding single fact in which the curious distortion of international currency conditions finds its clearest expression.

Germany could acquire the necessary gold fund in two ways, by buying it in the international gold market and by borrowing it from the central banks which command gold supplies in excess of their requirements. It is quite conceivable that the purchase of the gold needed for a currency reform which would facilitate the import of raw materials could take place in the newly developed forms of "compensation" transactions; whereas Germany's other debts will determine to what degree it would be admissible, in the interest of recovery, to incur permanent-interest obligations for the acquisition of a gold stock. But these are secondary questions; the least that can be said is that ways are not lacking to reach the goal.

In what manner the gold currency should be erected on the basis of an adequate stock of gold cannot and need not be dealt with here. That it can only be a reformed gold currency has become the general opinion of all experts. Likewise it seems to me that really essential differences of opinion scarcely exist any more in regard to the fundamental problems of a gold currency, problems which are perhaps best expressed in the statement of July, 1932, of the Administrative Council of the Bank for International Settlements and in the five unanimous decisions of the London Economic Conference of 1933. It has been recognized that the currency system is but a part of the economic organization of a nation into which it must be carefully fitted as an organic part.

It is also the common opinion of experts today that every central bank has international as well as national functions. It should co-operate with other central banks which show themselves capable of coping with the difficulties of their national tasks in order to combat international dangers and disturbances. Help can be given in recognizing imminent danger and meeting it. The Bank for International Settlements will play an important role in this joint action which today has assumed infinitely greater importance than before the War. It will, in the words of the London resolutions mentioned above, not only continually study the fundamental problems of the gold currency and examine such alterations in its application as experience may prove desirable, but will also play an increasingly important part in practice both by improving international relations and as an instrument of common action.

Only after the long and steep path briefly sketched above has been climbed, can those finer problems of the perfection of the gold currency to which Irving Fisher has so devotedly dedicated part of his great life-work become important in Germany.

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HOLLAND

THE NETHERLANDS DURING THE RECENT DEPRESSION

By G. M. VERRIJN STUART

DURING the recent economic depression the monetary system of the Netherlands has been exposed to violent concussions, just as have the monetary systems of most other countries. At present the monetary situation of this country is not by any means stabilized, either in relation to gold or—which is of much greater importance—in relation to the general price level. The actual degree of devaluation amounts to 19.6 per cent. This *de facto* devaluation cannot be considered the final goal of Dutch monetary policy. One may doubt whether a devaluation of nearly 20 per cent will be sufficient to restore a reasonable proportion between the general level of costs of production and the prices at which goods and services can be sold in foreign markets or in competition with foreign producers in the home and colonial markets. In my opinion further steps will prove necessary to bring down the rate of the Dutch guilder in relation to other currencies and to gold unless a continuing reflation of the level of world gold prices makes this superfluous. On the other hand, the great influx of money, especially of "hot money," to Holland during the course of the last few months counteracted the natural depreciation of the guilder after the gold standard was abandoned on September 26, 1936. It was only with some difficulty that the Dutch Equalization Fund succeeded in keeping the guilder down to its new provisional level.

On the whole, therefore, our present monetary situation shows a great deal of instability and uncertainty as to the course which might be followed in the future. Nevertheless, very important lessons in the field of monetary policy can be deduced from past experience. Notwithstanding the present uncertainties, a comprehensive and well-founded monetary program can be drawn up on the basis of these lessons.

The monetary system in force in Holland until she left the gold standard in September, 1936, was in principle the same as that of prewar years. The latter was introduced in 1875 with the guilder representing 0.6048 grams of fine gold. It was temporarily abandoned during the War, and re-established on April 28, 1925, the same day on which Great Britain, Australia, New Zealand and the Netherlands East Indies returned to their prewar gold parities. Since then the free circulation of gold coins for internal payments has been abolished and, except for a brief period during which gold coins were delivered for internal circulation, a gold bullion standard was operated. The central bank delivered gold at a fixed price for export purposes only and exclusively for payments to those countries which were prepared to reciprocate in the delivery of gold by their central banks.

The Netherlands thus had an experience of more than eleven years with the postwar gold standard. It must be stated at once that this experience was a very bad one. The return to gold in 1925 led to violent disturbances in the economic life of the country, owing to the fact that the gold standard was very inefficiently managed by practically all the responsible authorities in the principal financial centers of the world.

The first great lesson of this experience of the postwar period therefore lies in the conclusion that a return to a gold standard system of the old type would be disastrous for the economic development of this country. The same holds true for our colonies.

I shall now try to illustrate on the basis of some statistical data how badly the gold standard functioned in this country during the postwar period. It is regettable that the monetary statistics of the Netherlands are not as complete and exhaustive as those for instance, of the United States and Great Britain. As to the quantity of money (M in Professor Irving Fisher's well-known equation $MV + M'V' = PT$), the information is adequate, for the central bank publishes weekly statements. V cannot, of course, be measured directly. As to M', bank deposits, the statistical information is rather poor, most of the commercial banks publishing yearly statements only and failing to make a monthly publication of their balance sheets. $M'V'$ also cannot be measured exactly; only very few banks publish the amount of debits on current accounts of their customers. The movements and fluctuations of $M'V'$ may, however, be measured approximately by the amount of bank clearings in the great cities (Amsterdam, Rotterdam, and The Hague) published by the central bank, and also by the amount of bank debits on deposit accounts with the central bank and by the debits on deposit with the Postal Cheque Service (*Postcheque en Girodienst*). Although it is therefore impossible fully to supply the various factors of the Fisher equation with statistical data, there is nevertheless enough statistical information available to give a reliable account of the general movement of the circulation of money in this country.

The statistical information with respect to the PT factor is also rather defective. There are available indices of wholesale prices, cost of living, wages, freight rates and stock exchange quotations. But a good general index of the price level has not yet been calculated for the Netherlands.[1] T also can be measured only partially in the absence of complete production and trade indices.

Notwithstanding all these statistical gaps the PT side of the equation of exchange can be approached by way of an approximate calculation of the most representative parts of the price system and of production and trade. Absolute accuracy cannot be attained, but my own experience and that of most of my colleagues is that the statistical information available in this country is sufficient for the practical purpose of outlining in general terms a sound monetary diagnosis of the past and a well-founded monetary program for the future.

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[1] I hope that at least this gap in our statistical knowledge will be closed in the near future by one of the associates of the Netherlands Economic Institute at Rotterdam.

The following two tables relate to the first part of the period during which the guilder was on a gold basis. This first period embraces the years 1926 to 1929, inclusive. These were years of an upward movement in the business cycle. After considering the period of prosperity I will turn to the statistics of the depression years 1930 to 1936.

The following table presents a rough approach to the *PT* side of the problem.

TABLE I

Year[1]	Index of Wholesale Prices	Index of Cost of Living	Index of Quotations of Shares	Index of Industrial Wages Per Hour	Unemployment Per Cent June[2]	Index of Import Volume	Index of Export Volume
1926	100	100	100	100	4.9	100	100
1927	102	99	109	101	4.9	101	93
1928	103	101	114	101	3.6	106	102
1929	98	100	113	105	2.1	110	105

[1] Economische Jaarcijfers 1926–1936. Maandschrift Centraal Bureau voor de Statistiek, Januari 1936 en Januari 1937.

Economisch Statistisch Kwartaalsbericht (Nederlandsch Economisch Instituut) Jaarcijfers van het Centraal Bureau voor de Statistiek.

[2] The month of June was chosen in order to avoid the seasonal fluctuations of the winter months.

It shows that in the period of prosperity wholesale prices and the cost of living remained virtually stable. There was a considerable rise in stock-exchange quotations but nothing as "boomlike"

TABLE II

Year	Banknotes in Circulation[1]		Deposits Central Bank[1]		Bank Debits Central Bank[1]		Velocity of Turnover of Central Bank Deposits[1]	Clearings[1]						Velocity of Turnover of Postal Cheque Accounts[2]	Demand and Time Deposits Commercial Banks End of the Year[3]	
								Amsterdam		Rotterdam		The Hague				
	Million Guilders	Index	Million Guilders	Index	Billion Guilders	Index	Index	Billion Guilders	Index	Billion Guilders	Index	Billion Guilders	Index	Index	Million Guilders	Index
1926	880	100	41	100	31.6	100	100	13.4	100	2.4	100	0.17	100	100	749	100
1927	828	94	41	100	36.7	116	116	13.4	100	2.5	104	0.18	106	115	805	108
1928	804	91	49	120	41.9	133	111	14.8	111	2.5	104	0.19	112	102	821	111
1929	809	92	37	90	40.7	129	143	16.9	126	2.3	96	0.20	118	116	888	118

[1] Yearly average 1925/6 to 1928/9 (April 1 to March 31).

[2] Approximate calculation of the rate of turnover of deposits at the "Postcheque-en Girodienst."

[3] Cf. G. M. Verrijn Stuart, De conjunctuur in het economisch leven (Haarlem 1936), p. 187.

as in the United States. Wages rose only in the last year of prosperity, and then rather sharply, unemployment having declined to a negligibly low level. The volume of production and of imports and exports was rising considerably.

Under the circumstances (increase in population, greater supply of labor, increase of production and foreign trade) it would have been only natural had prices and even wages gone down slightly. However, this was not the case. Prices remained stable and wages rose, as did the index of stock prices. All this makes it appear probable that in the years 1926 to 1929 there was some monetary inflation.

This opinion is confirmed by Table II on page 241, which shows that, although the yearly average of the amount of notes issued did not rise but fell, there was a marked rise in deposits in commercial banks and in all the indices relating to the velocity of circulation. So there is no doubt that the total circulation of money rose considerably during the years of prosperity.

It was then and it is still a widespread opinion that there can be no monetary inflation so long as wholesale prices and the cost of living index remain stable. In that sense, as I have already pointed out, there was no inflation at all in the Netherlands during the years 1926 to 1929. I doubt, however, whether this theory is correct. During this period there was a considerable rise in the total circulation of money which kept the prices of goods stable but fostered a rise in wages and stock prices. Bank credit on security collateral was stimulated. The rise of stock-market quotations encouraged the issue of new stocks and bonds, a great part of which were issued by foreign countries and foreign private enterprises, as shown in Table III. The increasing export of capital in turn stimulated the export of industrial and agricultural products, which in many cases led to an unsound business expansion.

TABLE III

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Year	Total Amount in Million Guilders	Netherlands and Colonies		Foreign Countries		Shares		Bonds	
		Million Guilders	Per Cent of Total	Million Guilders	Per Cent of Total	Million Guilders	Per Cent of Total	Million Guilders	Per Cent of Total
1926	468	192	41.0	276	59.0	72	15.4	396	84.6
1927	492	156	31.7	336	68.3	96	19.5	396	80.5
1928	660	360	54.5	300	45.5	336	50.9	324	49.1
1929	456	324	71.1	132	28.9	288	63.2	168	36.8

[1] Economisch Statistisch Kwartaalsbericht (Nederlandsch Economisch Instituut).

If instead of the indices of wholesale prices and of the cost of living a general index of prices had been used to measure the value of money from 1926 to 1929, and if this index had been calculated on the basis of all the elements in the price system including wages and stock prices, it would have shown that monetary inflation was occurring in the Netherlands just as in several other countries, particularly the United States, even if not to the same degree. Owing to the fact that too much importance was attributed to the wholesale and cost of living indices, this monetary inflation was noticed only when it was too late to stop it. It could have been easily checked at the time, for on the whole the inflation in the Netherlands was probably not very serious. But it would be a fallacy to think that there was no inflation at all and that monetary conditions were sound during the last period of prosperity.

The depression which started at the end of 1929 seemed at first to be of a mild kind. It was not very seriously felt in this country before 1931. After a slow decline during the first depression year, the drop in prices and in the volume of production and employment became a real catastrophe, especially after the

German bank crisis and the suspension of the gold standard by England. The seriousness of the deflation in the Netherlands is made clear by the following tables.

TABLE IV

(Indices: 1926=100)

Year	Index of Wholesale Prices		Index of Cost of Living	Index of Quotations of Shares	Index of Industrial Wages Per Hour	Unemployment Per Cent June	Index of Volume of Imports	Index of Volume of Exports
	Old Series	New Series[2]						
1930	81	89.6	93	82	107	4.6	112	106
1931	67	76.3	84	50	105	10.3	106	105
1932	54	64.6	74	31	99	23.0	87	87
1933	51	62.9	75	33	94	23.7	86	78
1934	54	63.0	77	30	92	25.3	83	83
1935	52	61.5	74	29	89	28.8	75	80
1936	54[1]	63.8[3]	74	38[4]	86[5]	30.8	70	77

[1] October–December 1936=61.

[2] 1926–1930=100.

[3] October–December 1936=69.6.

[4] January–September 26=34; September 28–December=52.

[5] First half of 1936.

Table IV shows the heavy fall of wholesale prices, of the stock-exchange index and of the volume of foreign trade. There were other typical deflationary maladjustments in the shape of a serious "lag" in the downward movement of wages and the cost of living. The consequence was, of course, a disastrous increase in unemployment.

Table V shows the course of events from the monetary side. Owing to severe credit restriction and enormous hoarding of money all the indices of the velocity of circulation and the volume of bank deposits fell heavily. At the same time the volume of notes in circulation and of deposits at the central bank rose, which at first sight might seem to point in the other direction and be considered a symptom of reflation rather than deflation.

TABLE V

Year	Banknotes in Circulation[1]		Deposits Central Bank[1]		Bank Debits Central Bank[1]		Velocity of Turnover of Central Bank Deposits[1]	Clearings						Velocity of Turnover of Postal Cheque Accounts	Demand and Time Deposits Commercial Banks End of the Year	
								Amsterdam		Rotterdam		The Hague				
	Million Guilders	Index	Million Guilders	Index	Billion Guilders	Index	Index	Billion Guilders	Index	Billion Guilders	Index	Billion Guilders	Index	Index	Million Guilders	Index
1930	817	93	20	49	40.5	128	262	16.3	122	2.3	96	0.18	106	116	904	121
1931	824	94	32	78	36.6	113	144	13.0	97	1.8	75	0.19	112	93	725	97
1932	960	109	138	337	24.5	78	23	9.6	72	1.4	58	0.18	106	83	706	94
1933	980	111	262	639	16.0	51	9	6.4	48	1.0	42	0.15	88	76	641	86
1934	922	105	156	380	16.7	53	14	7.1	53	0.9	38	0.13	76	80	596	80
1935	892	101	161	393	16.9	54	14	6.3	47	0.7	29	0.13	76	95	483	64
1936	806	92	65	159	18.1	57	36	7.7	58	0.6	25	0.11	65	88	—	—

[1] Yearly average 1929/30 to 1935/36 (April 1–March 31).

But this would be a fallacy. In point of fact large amounts of bank notes were hoarded. The same holds true of deposits at the central bank, for bank debits and the index of the velocity of turnover were declining to extremely low levels.

That the increase in banknotes and central bank deposits was in fact symptomatic of the condition of deflation into which the Netherlands had fallen is also made clear by the increase in central bank gold reserves and the decrease in bills discounted, loans, advances, and foreign exchange (*Devisen*). The so-called "operating capital" of the central bank (the total amount of bills, loans and foreign exchange holdings), the amount of which is shown in the third column of Table VI, was more than halved in the course of five years.

TABLE VI

Year	Gold and Silver Reserve of the Central Bank		Discounts, Loans and Foreign Exchange[2]	Liquid Assets of Commercial Banks in Per Cent of Creditor Accounts and Deposits at the End of Each Year		Deposits at Savings Banks (monthly average)	
	Million Guilders[1]	In Per cent of Notes and Deposits[2]	Million Guilders	Cash, Bank and Call-Money	Idem Inclusive Bills	Postal Savings Bank	40 Private Savings Banks
1930	460	55.18	364	23.8	49.6	367	292
1931	480	52.47	383	17.8	45.6	429	302
1932	908	66.79	332	28.5	56.4	490	294
1933	972	82.29	203	30.5	57.3	516	307
1934	812	81.34	186	29.5	62.8	511	313
1935	807	81.63	173	20.6	55.3	500	319
1936	734	75.17	195	—	—	496[3]	325[4]

[1] At the end of each yearly service on March 31.

[2] Yearly average 1929/30 to 1935/36.

[3] January to November 1936.

[4] January to October 1936.

Another symptom of the great deflation was the increase in the cash holdings and liquid assets of the commercial banks. The remarkable increase in deposits at the savings banks may also be explained in the same way.

The fact that during this period of deflation new issues of stocks and bonds, and especially new issues for account of foreign countries, practically came to a standstill, needs no further comment.

TABLE VII

NEW ISSUES

Year	Total Amount in Million Guilders	Netherlands and Colonies		Foreign Countries		Shares		Bonds	
		Million Guilders	Per Cent of Total	Million Guilders	Per Cent of Total	Million Guilders	Per Cent of Total	Million Guilders	Per Cent of Total
1930	600.0	348.0	58.0	252.0	42.0	24.0	4.0	576.0	96.0
1931	336.0	288.0	85.7	48.0	14.3	12.0	3.6	324.0	96.4
1932	444.0	420.0	94.6	24.0	5.4	—	0.0	444.0	100.0
1933	360.0	348.0	96.7	12.0	3.3	—	0.0	360.0	100.0
1934	212.4	212.4	100.0	—	0.0	16.8	7.9	195.6	92.1
1935	65.0	65.0	100.0	—	0.0	2.8	4.3	62.2	95.7
1936	250.1	249.8	99.9	0.3	0.1	3.1	1.2	247.0	98.8

The tables presented above show that the deflation of 1930-1936 has been much more serious than the previous inflation and has pulled down the circulation of money to a much greater extent than the inflation had raised it.

The disturbing forces of this deflation were disastrous for the country to a degree which can hardly be exaggerated. The competitive strength of the Netherlands in all international markets was destroyed by the growing maladjustment between the prices of goods and services abroad and domestic costs of production. In the home market domestic enterprise lost ground to foreign importers and asked for and generally obtained protection in the shape of duties or import quotas. Public finances fell into a state of serious disequilibrium, taxable national income going down and government expenses remaining high, partly in consequence of increasing unemployment and relief expenses. It proved quite hopeless to try to restore the disturbed equilibrium by pressing down the level of costs and the expenses of public administration. The frictions were far too great to permit such a "deflation policy" to be successful.

The colonies too suffered heavily under the deflation. It is a well-known fact that in periods of deflation prices of agricultural products and raw materials fall more than other prices. For this reason the Netherlands East Indies, whose economic backbone consists in the export of agricultural products and raw materials, are very vulnerable. This colony has a great power of adaptation to fluctuations in the price level, wages being flexible and private enterprise not being burdened with great fixed debts in the form of bonds or bank credits. Nevertheless, the country as a whole had a very difficult debt problem to solve, as the government had to meet the charges on large loans and the pensions of former colonial officials. The burden of these charges became progressively greater as deflation continued. It led to budgetary deficits and constituted an obstacle to any expansionist policy on the part of the government.

Colonial private enterprise, although as a rule not burdened with fixed debts, was severely handicapped by the deflation. While wages and salaries may be more flexible in the Indies than in other countries, an adaptation of the sort required by the last deflation could not possibly be accomplished without some "lag" during which expansion of private enterprise was impossible and even a great deal of contraction proved necessary. And so long as the capital formerly invested in private enterprises was not written down in correspondence to the inflated value of money, it was practically impossible to get new funds on the capital market or from the banks.

Thus, even in a country with the remarkable degree of flexibility and with as elastic an economic system as the Netherlands East Indies, deflation has proved very injurious.

In every part of the Dutch empire therefore, ample proof was afforded of the inexpediency of the postwar gold standard. This presented to the Netherlands the urgent problem of how the great deflation could be stopped and fluctuations in the value of money avoided in the future.

Now it is obvious that for the time being the Netherlands could have restored a reasonable degree of external equilibrium in the mother country and the colonies by following Great Britain in giving up the gold standard. The Dutch government refused to do this. In 1931 public opinion was probably quite unprepared for such a decisive step and it might have caused considerable disturbance, although it is my personal belief that the advantages of joining the sterling bloc would have greatly outweighed the disadvantages. I must frankly admit that in this respect my opinion is somewhat "a posterioristic." I myself have advocated the suspension of the gold standard since June 1933. Until then I still hoped that some sort of international understanding might lead to putting into effect a policy of "reflation within gold." The deplorable results shown by the London Economic and Financial Conference in the first month of its sessions convinced me that the case for reflation within gold was at that time absolutely hopeless and that the only way for the Netherlands to escape from the difficulties of deflation was to give up the gold base of the guilder and to devalue.

This line of action was rejected by the Dutch Government. Not before September 26, 1936, was gold abandoned, and then not voluntarily but under the severe pressure of events in France. This devaluation came rather late, but even then the advantages of leaving an absolutely untenable gold base were still considerable, not only for this country but for the world at large. A country suffering from the maladjustments of monetary deflation is a center of depression injurious to the economic life of other countries, because its purchasing power in foreign markets must in the long run decrease.

It must be realized that a *de facto* devaluation of the currency means only a provisional and not a final solution of the monetary problem. It helps for the time being to restore economic equilibrium, but as soon as reflation has gone far enough to bring about a reasonable degree of internal and external equilibrium, a sound and comprehensive monetary program must be put into effect in order to stabilize monetary conditions. I shall try to show how such a program might be drawn up for the Netherlands.

It is not less true in economics than in medicine that "prevention is better than cure." The first part of any sound monetary program must therefore contain such measures as will prevent monetary inflation. It may be granted that moderate inflation is much less harmful to economic development than moderate deflation. But as the danger of deflation is greater after a period of inflation than after a number of years of stable money, a solid basis for continuous economic development can be attained much better by stable money than by moderate inflation. I shall first consider what internal measures a country can take to avoid inflation, and then turn to the international aspects of the problem.

The first measure to be taken by a country wishing to avoid inflation should consist in the regulation of the volume of the actual circulation of money. An increase in the circulation must only be allowed if and when necessary to satisfy demands resulting from an increase in the number of inhabitants or of private enterprises of the country, and also to counteract hoarding. If this criterion is followed, fluctuations in the prices of goods and services will clearly reflect all shifts in the relation between supply and demand. In a period of increasing production and population, prices of goods and services will decline slightly, but if at the same time the technique of production is improved and the supply of capital is abundant, then a general index of prices will remain, if not absolutely, at least tolerably stable. Such a general price index should be calculated on the basis of wholesale prices, wages, and the prices of real estate, stocks and other essential parts of the whole price system, and revised from time to time as important changes in the quantity of production take place. Thus the first aim of monetary policy under the circumstances mentioned above must be to prevent an inflationary expansion of the circulation of money and to stabilize a general price index as far as possible.

This aim can be realized only if the creation of new money in the form of bank notes and deposits is rigidly centralized under the control of the central bank. It should be entrusted with the task of stabilizing the circulation and thereby the value of money, the latter to be measured by the general price index. There would be no place in such a system for a fixed relation between money and gold unless the value of gold itself were regulated in the same way as that of paper money and deposits. Such a "management" of the value of gold could perhaps be effected by a large country; it cannot be an aim of national monetary policy for a small country such as the Netherlands.

Several means are at the disposal of the central bank for regulating the domestic circulation of money. There are in the first place the ordinary means of central bank monetary management, viz., discount policy and open-market operations. In the Netherlands the latter could be extended further in order to strengthen the position of the central bank in the money market. Before the recent revision of the Bank Charter Act open-market policy was restricted to purchases and sales of foreign bills (*Devisenpolitik*);

the recent revision extended the operations of the central bank to purchases and sales of treasury bills and bankers' acceptances. *I see no reason why the open-market policy should not be still further extended to include purchases and sales of government bonds and perhaps even of first-class bonds and bills of local authorities. Thus the powers of the central bank could be increased,* which might prove a factor of great importance in centralizing the regulation of money.

However, the principal amendment to Dutch banking legislation which I should recommend would consist in the introduction of a system of "required cash reserves" for the commercial banks. The percentage of cash required in relation to deposits should be fixed by the central bank and altered according to the fluctuations of the business cycle. This means that reserve requirements should be raised in periods of prosperity and lowered in times of depression. To this day the principle of required cash reserves for the commercial banks is unknown in Dutch banking law. My proposal amounts to the principle laid down in the American Banking Act of 1935 with this important difference, however, that I do not propose to set a maximum limit to the increase of reserve requirements but would be strongly inclined to grant the central bank power to increase required reserves up to a hundred per cent of deposits if deemed desirable in order to check a boom.

By these means the total amount of circulating money could be regulated and any tendency counteracted towards inflation in boom periods. The statistical data given above afford ample proof that from 1926 to 1929 it was not the central bank which inflated the currency; it was the deposits of the commercial banks and the indices of the velocity of circulation that showed signs of inflation. At that time and under the gold standard régime the central bank could hardly have stopped the inflation, even had it wished to do so. However, if the central bank could at once stop the expansion of deposits in commercial banks and even force them to reduce the volume of private bank money to compensate for an increase in the velocity of circulation, and if at the same time discount rates were raised and bills and bonds sold by the central bank in the open market, every check against an undesired inflation of the money circulation could be applied.

If inflation could be avoided by these methods, would deflation then occur at all, or could it be taken for granted that the economic life of the country would be permanently stabilized? Adherents to a strict monetary theory of the business cycle might be inclined to answer in the latter sense. Personally I would not go that far. A small country, especially one such as the Netherlands, is highly vulnerable in its export position. If in the world at large depression were to set in and a large part of former export possibilities were practically lost, as was the case after 1929, this could not but cause severe repercussions and for the moment disturb the stability of our monetary circulation. If in this case, which without the slightest doubt lies within the scope of practical possibilities, nothing were done by the monetary authorities, the deflation in the world at large would not be avoided in the Netherlands, even if in the preceding period of the business cycle she had stabilized her money.

The line of action then to be followed by the central bank can be easily indicated. First a drastic open-market policy would be necessary in order to reflate the monetary circulation. This policy can be strongly supported by financial policy on the part of the government if it refrains as far as possible from the execution of public works in periods of prosperity in order to start an expansionist policy in times of impending deflation. The latter can be financed by the issue of new government bills or bonds which, if they cannot be sold in the open market, must be taken over by the central bank. Furthermore, the government should provide for a surplus in its ordinary budget in good years and deposit such surplus with the central bank to be used to cover deficits in times of impending depression. Such "hoarding" by the government would reinforce the stabilization policy of the central bank considerably. Finally, the government should not try to maintain a high level of money wages and should abstain from too liberal an unemployment dole system; pressing down the level of wages in public works has a downward influence on wages in private enterprise, which in times of depression stimulates business activity and counteracts deflation. If the government and the central bank co-operate in this manner, reasonable monetary stabilization can without doubt be realized, even in a country with so many international relations as the Netherlands has.

Now it is clear that a policy of national monetary stabilization along the lines indicated above can be combined with a policy of stabilizing exchange rates only if other countries pursue the same monetary policy. If they do not, a country has to choose between internal monetary stability with fluctuating exchange rates on the one hand and stable exchange rates with monetary instability within its own frontiers on the other. In every country there is some conflict of interests as regards this problem. Especially in a country with an important volume of foreign trade are stable exchange rates strongly advocated by importers and exporters.

However, the importance of stable exchange rates should not be exaggerated. Practically all the larger risks in international commercial transactions are covered on the forward exchange market. If stable exchange rates can be guaranteed, so much the better for international trade. But I doubt that it would be good monetary policy to sacrifice internal currency stability for the stabilization of foreign-exchange rates.

Stable exchange rates are of much greater importance for long-term international credit transactions, especially when international credits are granted in the form of purchases of foreign bonds. Purchases of foreign shares do not matter in this connection, as the fluctuations of exchange rates are compensated for by the movements of the quotations of these shares on the stock exchange.

However, I would like to draw attention to the fact that the importance of stable exchange rates in regard to capital exports is probably not as great for the Netherlands as for other countries, because one of our principal areas for capital exports is the Netherlands Indies. Since 1854 a currency union has existed between the mother country and the colony, both countries having the same standard and the same gold and silver coins, except that the small change is of a different shape. It seems improbable that this currency union will be dissolved. A great part of Dutch capital exports is therefore free from exchange risks.

As to the capital export in the form of bonds issued by other countries, it would be highly preferable to restrict such transactions to countries which are either prepared to stabilize their currencies on the same basis as the creditor country or to issue the bonds in the monetary unit of the latter. In the case of the Netherlands this would mean that, unless the foreign currency be stabilized, foreign bonds could be issued in the Dutch capital market only if the debtor were prepared to pay them off in a fixed amount of Dutch guilders. If such a policy for capital exports were followed, a certain amount of long-term international credit transactions would certainly be eliminated; but that would be decidedly preferable to the great exchange risks of capital exports incurred in the past.

All in all, if a country has to choose between the internal instability of the postwar gold standard with fixed exchange rates and internal stability with fluctuating exchange rates, I would prefer the latter course from practically every point of view. This would mean that exchanges could be maintained at a stable level only in relation to those countries which likewise prefer internal to external stability. This opens some prospects for regional monetary agreements, but for the time being it seems a dangerous illusion to believe that international stabilization including all the great countries could be accomplished in the near future.

Under these circumstances and in view of the international aspect of the monetary problem one further step should be taken. The movements of "hot money" should be sterilized by sales of treasury bills or bonds in the open market. In several countries, including the Netherlands, the task of neutralizing such money has been intrusted to equalization funds working behind the screens of secrecy. As long as international financial conditions are as unstable as at present, this secrecy seems to meet no objection. However, the task of equalization funds should as soon as possible be transferred to the central banks in order to make possible rigidly centralized management of currencies without direct meddling by governments, whose interference is undesirable in most countries in view of political influences.

If a small country such as the Netherlands stabilizes its currency and substitutes a "managed currency" for the old-fashioned gold standard, its gold stock could still be used for international payments and new gold could even be accepted from foreign countries. The difference between the new and the old system would be that under a managed currency gold would be bought and sold at fluctuating prices, whereas it had a fixed price under the old system. This would practically lead to the situation that prevails today under the triangular monetary agreement between the United States, Great Britain, and France which has been joined by the Netherlands, and according to which the United States has bound herself only for the time being to deliver gold at a fixed dollar rate. This agreement is not a new form of gold standard because it lacks the most essential feature of such a standard—an internationally accepted fixed gold price. An international agreement containing a fixed gold price could be joined by the Netherlands only if stabilization of the currencies of the different parties to the agreement were adequately guaranteed. For the time being this is not the case. That may be regretted, but it means that so long as the present situation prevails a return to the old gold standard would be very bad monetary policy for the Netherlands.

Having outlined a rational monetary policy for the Netherlands I come finally to the question of whether there is any chance of realizing such a program in the near future. It seems improbable to me that this country will return to an "unmanaged" gold standard. The measures of September 26, 1936, have freed the country of a certain "gold dogmatism." The government and the central bank seem to have become more critical in their judgment of the gold standard. While formerly they extolled its merits, they have now become aware that this country might be much better off by pursuing its own monetary policy than by linking its currency to gold, which, in point of fact, is no real standard at all, but exposes the countries adhering to it to the gravest monetary fluctuations.

It is, however, decidedly another question whether the Dutch government would be prepared to take the necessary measures for the rigid centralization of monetary powers along the lines indicated above. And it is still more doubtful whether such a program would be acceptable to other countries; that is, whether regional monetary agreements could be reached in order to stabilize exchange rates between certain groups of countries. In several important countries armament expenditures and a policy of low interest rates to facilitate the issue of new government loans might involve serious threats of inflation and hinder the adoption of a sound monetary program in the near future. The

Netherlands might therefore have to go her own way in order to arrive at a highly desirable internal stability of her currency.

In any case I hope to have made it clear that in the light of the monetary lessons of the past a program can be drawn up for this country which for all practical purposes would guarantee a reasonable degree of internal stability and which would form a useful basis for international co-operation. If there is a will to realize this purpose the way to accomplish it can easily be found.

ITALY

THE MEDIEVAL PRACTICE OF MANAGED CURRENCY

By Luigi Einaudi

1. Let us suppose that a country, or the most important commermercial countries of the world, adopted the following monetary system:

a) The unit of money of account is called a "dollar." The dollar is not coined, nor will it ever be coined; nor will paper notes ever be issued in dollars. The dollar is merely an instrument for accounting or pricing. All accounts are drawn and settled in dollars; all debts, and likewise the budgets of nations, states, companies, and private persons, as well as taxes, salaries, and wages, are fixed in dollars. In stock and merchandise exchanges, in markets and shops, all goods, securities, lands, houses are quoted in dollars. Nobody, however, has ever seen or will ever see the dollar in its material shape.

b) The mint will coin gold pounds, platinum guineas, and silver florins, all of them weighing 120 grains each. On the face of the coins, only the words "one pound," "one guinea," and "one florin," their multiples and submultiples, will appear. No legal connection ought to be established or otherwise maintained between pounds, guineas, and florins.

c) The printing press of the central bank will issue notes payable in so many gold pounds, platinum guineas, and silver florins. It will be the duty of the central bank to issue notes against gold, platinum, and silver and to pay precious metals of the required species against notes. Within the limits of safety the central bank can issue notes to the state against the promise to pay so much gold, platinum, or silver.

As dollars are an imaginary money of account, pound, guinea, and florin coins and notes will be the money of effective payment. The wages of a railwayman will be fixed at so many dollars a day and paid in so many pounds or florins.

2. All that is needed to make the system work is an initial proclamation, to be followed in due course of time by successive proclamations, fixing the connection between the money of account (dollar) and the species of effective moneys of payment, let us say, gold pounds. Let us fix the initial connection at five dollars to the gold pound. Thenceforward the system will work in part automatically and in part by proclamation.

3. The problem can be better approached from three points of view: (1) permanence of all three or more precious metals in circulation; (2) stability of the price level; (3) stability of the foreign exchanges.

4. The first aim to be achieved is *permanence of all coins*—gold, platinum, and silver—and of notes representing them and in circulation at the same time. The assumption is that it is desirable to have several metals circulating simultaneously. It is useless to justify this assumption here, because I need not rehearse all the bimetallist arguments, and, if the contrary view is preferred, the problem will become all the more simple. I merely make the assumption to prove that the system will work even in the most complicated case.

The stumbling block of bimetallism has always been the pretence of the government to fix a legal connection between gold and silver. As soon as the legal rate of exchange between gold and silver coins was no longer identical with the commercial rate, the system foundered on the rock of Gresham's law.

Silver or gold coins which were undervalued as against bars disappeared. The remedy was found long ago by that greatest wit of the eighteenth century, Ferdinando Galiani, in his *Della Moneta,* one of the few books on money worth reading even now. Writing in 1750, at the age of twenty-one, he pertinently asked: "Why should the state fix the price of coins? The prices of wheat, wine and oil are much more important than the price of coins; and no statute but only the common opinion of the people regulates them." Bowing, however, to the prejudices of mankind, he proposed that the government should fix the legal rate of exchange between what I have called imaginary money of account and effective money of payment; but the legal rate would have to be optional. People should be free to contract out of the legal rate. It is interesting to remember that in 1706 John Law, the celebrated financier, in a memoir published only in 1757 by Forbonnais, made the same criticism against fixing legal rates between the two sorts of money; but he did not, like Galiani, propose that the legal rate should be optional. Galiani's clause fell to the ground and was forgotten.

It is truly a live clause, if read in conjunction with the existence of these two sorts of moneys. If a proclamation said that one gold pound is worth five dollars, we may indeed leave it to the market to fix the rates between platinum guineas and silver florins on the one hand and dollars on the other. As all monetary units weigh 120 grains, if the commercial rate of exchange between platinum, gold, and silver bars is 0.80 grains platinum = 1 grain gold = 80 grains silver; and if 5 dollars = 1 gold pound, then 1 platinum guinea = 6.25 dollars; and 1 silver florin = 0.0625 dollars or 6¼ dollar-cents. If the commercial rate changes to 1 grain platinum = 1 grain gold = 100 grains silver, and if 1 gold pound = 5 dollars, then 1 platinum guinea becomes = 5 dollars and 1 silver florin = 0.05 dollars or 5 dollar-cents. Debtors, customers, and employers who are in debt so many dollars will pay indifferently, in gold, platinum, or silver coins or notes, according to the ruling market rate. There is nothing in the system which could expel any of the coins from circulation. Stability of bi- or trimetallism is reached through the device of pricing all coins of different metals in the same imaginary money of account while fixing legally only one of the three prices, viz., gold, or, if fixing all three, through Galiani's device of making it optional for people to contract out of the legal rate.

5. The result, we must admit, appeals only to that section of opinion which is favorable to bi- or trimetallism. Monometallists or bimetallists alike are bound, however, to appreciate the second aim which the system claims to achieve, viz., *stability of the general price level.*

Of course the system cannot pretend to achieve its end without a certain dose of management. But, in so far as the achievement is thought of as something definite, desirable, and possible, the device is as good as, or perhaps better than, any other. The usual device, when prices are rising or falling and the monetary authority thinks it desirable to prevent such an occurrence, or wishes to retrace its steps, is to revalue or devalue. Devaluation is now, as it has always been, more frequent than revaluation. But devaluation requires that the gold or silver or platinum weight of pounds, florins, or guineas, hitherto fixed at 120 grains, be reduced, let us say to 100 grains. This is a clumsy affair, as for the time being coins must be outlawed from circulation, put into the coffers of the central bank, recoined and reissued. In the meantime the place of coins is taken wholly by inconvertible notes—and "in the meantime" often means decades or longer.

Now, suppose that prices had fallen 16.66 per cent. All that is required, under the system, is a proclamation increasing the rate of exchange between the money of account (dollar) and the money of payment (gold pound) from 5 dollars = 1 pound to 6 dollars = 1 pound. As said above, the rates of silver florins and platinum guineas will adjust themselves on the market. Without a change in the amount of effective coins and notes in circulation, or in the weight and fineness of coins, the circulation of the money of account is increased 20 per cent by fiat. People and banks find their pocket money and their till notes increased by 20 per cent in dollar valuation. Prices which, with gold pounds at 5 dollars, had sunk from 100 to a level of 83.33, will tend to rise again to 100 with gold pounds at 6 dollars.

The central bank will have its balance in equilibrium as it was before the fall of prices. For instance, 1 billion gold pound notes will be secured by 0.5 billion gold pound coins and 0.5 billion gold pound state promissory bills. Only the account units will have increased, on both sides, from 5 to 6 billion dollars.

Other banks which keep their accounts in dollars will, against a deposit liability of, say, 1,000,000 dollars, have assets amounting to 500,000 dollars of advances and discounts and 500,000 dollars of securities. If, in consequence of a fall in prices, the rate of exchange between dollars and gold pounds changes from 5 to 6, liabilities will be payable in 166,666 gold pounds instead of 200,000. But assets will likewise be reduced, because 500,000 dollars of advances and discounts will be legally reimbursable with only 83,333 gold pounds. As to the prices of securities, if fixed-interest bearing, there is no reason why their dollar price should change. The only difference will be that, the divisor being 6 instead of 5, their price in gold pounds will be 83,333, just sufficient to balance liabilities. Under the usual system securities bearing variable dividends would have a tendency to sink and put the bank in jeopardy. Under the two-money system the automatic increase of the dollars in circulation will tend to keep the value of these securities at 500,000 dollars; which, with the divisor 6, is sufficient to balance the bank's liabilities. The inverse process would take place if, after a rise of the price level from 100 to 125, a proclamation had changed the rate between the dollar and the gold pound from 5 to 4. Liabilities and assets of 1,000,000 dollars would then correspond to 250,000 gold pounds.

Salaried people whose salary is fixed at 3,000 dollars a year will receive 600 gold pounds if the rate of exchange between dollar and pound is 5 and the price level is 100; or 500 gold pounds if the price level sinks to 83.333 and the rate of exchange rises, by proclamation, to 6; or 750 gold pounds if the price level rises to 125 and the rate of exchange is made to fall to 4.

6. *Stability of foreign exchanges,* which is the third aim of an ideal monetary system, is likewise achieved by the two-money device. We must remember that money of account is valid only for internal purposes; it can be called a dollar in the United States, a peso, franc, lira, mark, or pound sterling in the other respective countries. The effective money, in coins or bars, will be the only money accepted for settling international accounts. As there will never be need for changing the weight and fineness of gold, platinum, and silver coins, foreign exchanges will be stable by definition.

Fluctuations of exchanges will be wholly an internal affair. At first men will be bewildered; but by-and-by they will grow accustomed to seeing daily fluctuations in the dollar prices of silver florins and platinum guineas and to frequent official changes by proclamation in the dollar rate of gold pounds. As already said, almost two hundred years ago by Galiani, coins will gradually come to be seen as subject to price fluctuations like wheat or oil or securities. If the system can be managed successfully, men will find it obvious that a given salary or wage or rent fixed in dollars has a variable buying power in gold or silver, as is the case with wheat and oil, but a stable buying power in an assortment of goods, viz., a constant general purchasing power. Men will slowly free themselves from a superstition which in Europe has bred much ill will between nations: the superstition of the foreign origin of the fall in the value of internal money. The great majority of people in Germany, France, Italy, and elsewhere are convinced that their marks, francs, and lire fell in past years owing to manipulations of their enemies. The press is full of tales of assaults by New York or London or Amsterdam against national moneys, and even books are written on such silly topics. The new system will bring even to the uneducated mind of the man in the street the truth that the value of the national monetary unit is an internal problem; and that increases or decreases of the gold, platinum, and silver value of the dollar unit are the consequences of the acts of the government of each nation. If fluctuations in the gold price of the dollar unit are accompanied by the stability of purchasing power of coins or notes received or paid, the people will come to praise the good administration of their national monetary authorities; if the contrary happens, the people will connect their bad experiences with the folly or wickedness of their countrymen in charge of monetary affairs. Even if the system had only this one effect, its achievements should be deemed very important.

7. Let me confess at once that the above plan is not of my invention. Indeed, it is not a fruit of imagination at all. Men, for a thousand years before the French Revolution, did not know of any other monetary system. Books and pamphlets and statutes of the ninth to the eighteenth century are unintelligible if one does not bear in mind the distinction between money of account or imaginary money and effective or coined money. Usually the money of account was called *libra, livre, lira.* Men kept accounts, drew instruments of debts, sold and bought goods and securities and property rights in imaginary money, which they never saw. Coins had strange names, they poured into each country from all parts of the world, wore gold and silver and half silver dresses, were minted at home or by foreign princes. That made no difference to people who continued to talk and negotiate and keep accounts in *libras.* The idea got ingrained in the

minds of the people that the *libra*, the monetary unit of account, was something invariable, however changing was the price or quotation of the effective moneys.[1]

There was something very ludricous in this conception because princes often made use of the device of increasing the *libra* price of coins—which was the old name of devaluation—when they desired to repay smaller sums than those received. If a prince had received 5,000,000 *libras* when 1 gold *sequin* was equal to 5 *libras*, by the simple device of increasing by proclamation the price of the gold sequin to 10 *libras*, the prince was enabled to halve his debt; repaying 500,000 gold *sequins* instead of the 1,000,000 received, and pretending to have repaid the identical sum of 5,000,000 *libras* received.

Under the naïve misapprehension of the people and the dishonest behavior of the princes lay, however, a lofty ideal. It is the same ideal as that which today prompts so many theorists to construct systems designed to give us a stable money. Perhaps involuntarily and without a plan, before the French Revolution, people hit upon the idea that gold and silver coins were merely goods which ought to be priced like any other goods in the market.

8. The imaginary or account money, the *libra* or *livre* or *lira* of old, was not a true money. It was something even more abstract than a paper note, which is an image, or mirror, reflecting money; it was a mere "ratio." The price of a good is, indeed, not a material thing.

When we now say that the price of a hat is 5 dollars we do not mean that this price means so much gold; we say only that the ratio between two goods, one hat and one dollar is the number

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[1] For the main bibliography on the double money system see my *Teoria della moneta immaginaria nel tempo da Carlomagno alla rivoluzione francese,* in "Rivista di stora economica," Turin, March, 1936; and my introduction to *"Paradoxes inédits du seigneur De Malestroit touchant les monnoyes avec la response du President De La Tourette,"* No. 3 of "Reprints of Unprinted and Rare Economic Tracts," Turin, 1937.

5. This number 5 is not merchandise itself; it is an abstract ratio. However, we must reason to arrive at this conclusion. Most men, being unable to reason, are apt to fall into the trap of thinking that a price is something material.

Medieval man knew better. The device of imaginary or account money came gradually to be adopted all over Europe between the ninth and the eighteenth century as a convenient way of stating that the price of merchandise is a ratio between a given quantity of that article of merchandise and a given quantity of another. When people said that one hat was worth 5 *libras*, they did not say that something material called 5 *libras* must be given in exchange. What they meant was simply that 5 was a useful number to make clear the relationship existing between the two goods, *one hat* and *one sequin*. The hat was not the sequin or vice versa; but both were bound together by the abstraction of 5 libras.

There is a difference between the present and the old terminology. When we now say 1 hat = 5 dollars, we are likely to think that there is something identical between two material things, between the hat and the gold contained in a 5-dollar coin. We think and speak in terms of a mysterious "substance" which gives an identical "value" to the goods. When in olden times people said that one hat and one sequin were both equal to 5 *libras*, they were easily brought to the conclusion that these words meant only an affirmation of an equality "ratio" between the two goods exchanged, inasmuch as they knew that there was no substance whatever in the words "5 libras." By creating an intermediate step between goods and coined money, men invented something which could be utilized for the better management of the monetary system.

9. True, princes misused the tool, and men were made so angry by these misuses that they threw it overboard at the end of the eighteenth century. When the people proclaimed that

there was *only* one monetary unit, a coin of so much gold—weight and fineness—they were persuaded to think that they had made a great step in the direction of simplicity and good faith. After so many other bitter experiences, however, the World War proved finally that devices were not wanting for devaluing the monetary unit, though the pretence was maintained that it was still the same unit as before. The gold units did not prove to be a sufficient bulwark against manipulations of money.

Against these manipulations no system whatever is invulnerable. Gold money and managed currency alike are subject to misuse. The following queries are therefore pertinent: Can the old two-money system offer nothing useful to contemporary practice? Must the idea of a money which cannot be coined, which cannot even be issued in the form of representative paper, a money which is a mere "ratio," be discarded without examination? Does not its millenarian life suggest that there is something in it worth discussing? The present paper is not a plea to adopt the imaginary money again. It only aims at setting forth its case. It is not the defence of a project, but the philosophy of an old practice, which perhaps may be considered again.

POLAND

PROPORTIONALISM AND STABILIZATION POLICY

By FELIKS MLYNARSKI

PROPORTIONALISM

THE CLASSICAL doctrine of the gold standard, as formulated more than a century ago by Ricardo, consisted of a few simple principles. The first principle was that of the constant bullion content in the monetary unit, i.e., the rigidity of the statutory mint par of exchange. The second was the principle of free mintage. The third consisted in absolute freedom to import and export gold. The fourth principle required a correspondence between the discount policy and the movements of gold, so as to cause a contraction in the quantity of money in circulation with the outflow of gold and an increase with the inflow of gold into the country. The observance of these principles promised a permanent stabilization of foreign-exchange rates. Their fluctuations would be kept within the limits of the so-called gold points.

The classical doctrine, however, was not limited to monetary technique, but also required, in addition, the maintenance of free trade. From this point of view, free trade is an indispensable condition for the normal functioning of the gold standard. If the level of prices in one country should rise above the level of prices in other countries, then, under free trade and free movements of gold, imports would increase and exports decrease. Consequently, an unfavorable balance of trade would follow, causing an outflow of gold which in turn would lead to a contraction in the quantity of money in circulation and would react to depress prices. A fall in these prices below the price level in other countries would cause the contrary process: imports would shrink, exports would grow, the adverse balance of trade would be replaced by a favorable one, and gold would flow back into the country. In this way excessive differences between the price levels would be continuously leveled by the free movements of gold from one country to another. Thus the system so conceived implied an automatic functioning of the gold standard on a world scale.

The conditions postulated above obviously could not include the premise of the stabilization of the purchasing power of gold. The postulate of such stabilization was logically impossible; for it is not the stabilization of price levels, but their changeability and elasticity which is the condition for the automatic functioning of the gold standard. The danger of excessive fluctuations was to be avoided by the free movement of gold from one country to another. Free trade assumed this leveling influence, which appeared to be justified in theory and attainable in practice. Acute economic crises would not then occur and there would be no room for policies of economic self-sufficiency as opposed to world economy.

In reality, however, the course of events developed otherwise. Even in the nineteenth century the gold standard system did not function as automatically as the Ricardian doctrine required. This was due to many causes which cannot here be discussed in detail. Two of them, however, played decisive roles.

The first was the continuous growth of protection. Most detrimental to the functioning of the gold standard was the protectionist policy of the United States, when that country began to play an increasingly important part in world economy. After the World War, when the United States became a creditor country and when, despite this fact, it continued to strengthen and raise its customs barriers, a reasonable redistribution of monetary gold became quite impossible. The United States attracted and continued to attract an excessive amount of gold, thus exerting a steady deflationary influence on the rest of the world.

The second decisive cause was the disturbing effect of short-term money accumulating in banks in greater volume and passing with increasing facility from one country to another in accordance with changes in bank rates. The international movements of gold do not depend so much today upon changes in the prices of goods as upon changes in the rate of interest for short-term money. In this way a revolution has taken place as far as the postulates of the classical doctrine of the gold standard are concerned. International trade has ceased to be free and has become subject to ever growing state control. Simultaneously the movements of gold have ceased to be connected with movements of goods in foreign trade. In these new conditions the automatic mechanism of the gold standard, which even in the nineteenth century was more legendary than real, became in the twentieth century quite impossible.

The failure of the Ricardian doctrine created a new situation. The failure of the gold standard to function automatically was equivalent to the absence of the leveling influence of gold movements on price levels. The safety valve did not act according to theory. It proved impossible to safeguard world economy against great, often excessive, fluctuations in price levels. After periods of high prices and unsound prosperity there would come periods of low prices and catastrophic depressions. The latter in particular influenced the shaping of ideas. The injurious effects of excessive fluctuations of prices became a burning problem. Under these conditions sooner or later the idea of the stabilization of the level of prices as the principal postulate had to arise.

Irving Fisher was a pioneer in this field. He advanced the theory of a new gold standard which was to be based on a change-able gold content of the monetary unit, varying according to the changes in the index number of prices. At about the same time Cassel developed his theory of the insufficiency of monetary gold stocks, pleading for the emancipation of credit policies from the influence of changes in gold stocks. In agreement with Fisher, he suggested that the purchasing power of gold should be stabilized, i.e., that the stability of the level of prices be the main object of the new policy of central banks. The classical doctrine of the automatic standard was thus opposed by the conception of a managed currency. More and more economists were accepting the principles of the new school. Today Keynes appears to have the greatest number of adherents; according to him the gold parity should be changed from time to time. Foreign-exchange quotations should fluctuate within limits broader than those of the gold points, for instance within 5 per cent of a given parity. The issue of bank notes should be severed from gold movements and controlled only from the point of view of stabilizing the purchasing power of money as the most important consideration.

Without going into technical details, and without discussing the shortcomings or advantages of the new doctrine, it can be stated that it is a complete reversal of the Ricardian theory and hence quite revolutionary with regard to the classical doctrine. It is no longer the stability of the gold parity but the stability of the purchasing power of money that is of vital importance; and instead of the elasticity of price levels the stability of these price levels become the main objective. Economic nationalism tends to dominate in place of the traditional internationalism of the gold standard. It is interesting to note that the country where this doctrine secured the strongest hold over public opinion was England, the cradle of the Ricardian doctrine.

It would be premature to attempt to foretell at present the result of the theoretical discussions of and practical experiments with the new doctrine. However, it can be said in its favor even now that it brought into light what the classical doctrine had kept in the dark. The problem is to eliminate, or at least to mitigate, the effects of business cycles. The Ricardian theory merely admitted that under the free-trade system the free movements of gold would check excessive fluctuations of price levels, reducing all economic forces to one common world basis. The new doctrine tackles the problem in a more positive way. If attempts to stabilize the purchasing power of gold should be successful, there would be no longer any violent fluctuations, and booms as well as slumps would cease. From this point of view, and especially after the last disastrous economic crisis, this stabilizing problem is the same as that of eliminating excessive fluctuations of price levels, and as such it is the central problem of contemporary theory and practice.

The automatic functioning of the gold standard and a system of free trade were the leading ideas of the nineteenth century. The stabilization of the purchasing power of gold, i.e., a relative rigidity of price levels will, in all probability, be the leading idea of the twentieth century. Whether it will be necessary to abandon the traditional system of the rigid gold parity and to follow the principle of elasticity is a question of only secondary importance. At present it is more important to know what will be the general trend of an economic policy linked to the new gold standard.

Let us start with a logical analysis. By stabilization of the price level we understand the elimination of existing excessive fluctuations of business cycles. It is possible to imagine steady economic progress without booms or depressions. The question is whether every level of prices would guarantee such steadiness of economic development. Most certainly not. The price level which is desirable for stabilization must be a particular one. It must be a level which does not hinder economic progress but, on the contrary, facilitates it. It depends, of course, upon the fact whether the given stabilized price level makes it possible not only to maintain the volume of production but also gradually to expand it. And in turn, upon what does this depend? The obvious answer is that it depends only on the profitableness of economic activity at the given level of prices.

The problem of the stabilization of the level of prices presupposes, as we can see, *the postulate of the profitableness of the production of goods and services.* However, upon what does profitableness depend? It depends on such a relation of costs to prices that there should be profits and not losses, i.e., that the price on the market must be higher than the total cost so that it pays to produce goods and services, and a gradual expansion is possible. The question arises, What is cost? It is the price paid by the producers for raw materials, machinery, labor, credit, insurance, and transportation. It is further made up of taxes paid to the government and local authorities. Owing to the continuous expansion of the activities of public bodies their budgets are fast increasing, which in turn causes an increase in taxation. What do we receive in return for the taxes we pay? We benefit by roads, national defence, public security, justice, free education, public assistance, and many other direct or indirect public services. It can be said, by way of analogy, that the tax item represents the price paid by the producer for all those public services and benefits which he receives.

Returning to our analysis, we may repeat that the *main problem lies in a proper relationship between all the various prices.* If this relationship changes, i.e., if some prices grow excessively while others fall, the balance is upset. The slumps and booms in the nineteenth century resulted, as a rule, from such a disturbance in the relationship of prices. This disturbance is today, as it was in the nineteenth century, connected in the first place with the relation of the prices of agricultural products to the prices of industrial products, or the relation of the prices of both these kinds of products to the prices of credit, transportation and —what is most important—to the price of public services, by which should be understood the excessive increase in taxation and a wrong distribution of its burden.[1]

Proceeding with our logical analysis, we reach the conclusion that the stabilization of the price level implies the stabilization of the profitableness of production, which in turn implies that the price obtained for the new product must be higher than the total expenditure incurred in its production.

By prices we usually understand the exchange value of goods or services expressed in monetary units. In an economic system in which money is not used exchange is effected by means of barter. In such conditions prices do not exist, but supply and demand are brought directly into play. There is not price but only exchange value. The invention of money facilitates the exchange of goods, but at the same time complicates it and makes it less obvious. Contemporary economic writers are trying to find a system in which national economy would function in the same way that it does in the barter system, in spite of the existence of money. With this object in view they have introduced such notions as "absolute economic equilibrium," "neutral money," or a "natural rate of interest." All these conceptions have aimed at destroying the "money illusion" so pertinently described by Irving Fisher. Thus if we remove the disturbing influence of money we come back to the simple truth that economic exchange is, and indeed has always been, the exchange of goods and services. It follows that there is no other purchasing power but the goods and services which we produce and exchange.

Agreeing that exchange value is the basis and that it is determined by the law of supply and demand as in the barter system, we come to an important conclusion: the production of goods and services should move forward in step, for only thus can their exchange value be stabilized. If one branch of production falls out of step and expands too rapidly, or another lags behind, the balance of the direct exchange will be upset, because the exchange value of one category of goods then predominates over another, or inversely. An excessive supply of fruit with a simultaneous contraction of the supply of meat, as a result of an unsuccessful hunt, causes a corresponding change in their mutual exchange relations. This is the obvious process in a barter system. The same happens also in the system of contemporary economy, and only the "money illusion" makes the picture less clear.

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[1] The postulate of profitableness does not exclude temporary business losses or permanent monetary losses in the various social services. The first kind of deficit is made good from reserves, as long as they exist; and the second from the pocket of the taxpayer. Such exceptions only confirm the rule that absence of profitableness cannot be a permanent principle of economy.

Whatever the level of economic development and social organization, the point of gravity lies in the existence of a certain *proportion in production*, that is to say in permanency of that proportion at which the increase in the production of goods and services takes place. When such a proportion is maintained, exchange values are stabilized and consequently prices must also be stabilized. Changes in prices may, under the influence of psychological and political factors, be retarded or accelerated, but sooner or later they tend towards the actual exchange conditions. If it were possible to exert full control over the economic development and secure the existence of a permanent proportion in production it would then be possible to reduce the circulation of money to a minimum and to base exchange on the clearing of mutual claims through the intermediary of a single bank.

The conception of such a bank was developed by Taussig.[2] Keynes mentions a similar idea in one of his works though, like Taussig, in connection with different problems from those discussed here.[3] The implied assumption of such romantic ideas is the postulate of a perfect proportionalism of production which would make possible a similarly perfect proportionalism of prices. We would then enjoy a state of ideal equilibrium which in turn would create perfect conditions for the clearing system. This system would reduce the role of money to a minimum and would thus approximate the dynamics of our economic civilization to the dynamics of a barter economy.

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[2] F. W. Taussig, *Principles of Economics*, p. 34.

[3] John Maynard Keynes, *A Treatise on Money*, I, 26.

Summing up our logical analysis we can venture to lay down the thesis that *proportionalism of production and exchange is both a postulate and an essential condition of the stabilization of the level of prices,* conceived as a synonym for the stabilization of the purchasing power of gold.

We may now answer two important questions. One of these, less important so far as our aims are concerned, relates to the sources from which prices higher than the total costs of production could be paid. If we agree that there is no other purchasing power than the goods and services which we produce and exchange, then prices higher than the total costs can be paid only from the surplus in the national income earned by the community during the year. But how is it possible to pay *permanently* more for new products than the total production costs?

The stabilization of profitableness requires continuity in economic progress as well as a continuous annual increase in the national income by a certain percentage. A continuous growth in the national income is not, however, sufficient. No less important is the problem of the distribution of this spurplus. In the light of the preceding analysis, the distribution of the surplus should be allotted in proportion to the various factors of production. Without such a proportionality some people would receive a revenue at the expense of others and the balance would sooner or later be in disequilibrium, as in the case of a decrease in the national income. Before October, 1929, the United States was enjoying stabilization of the price level with a simultaneous rapid increase in the national income. The distribution, however, was faulty. Because wages and salaries did not rise, labor as the producer of services did not receive corresponding benefits from the economic progress. On the other hand, industry was accumulating ever larger profits. This state of affairs caused superliquidity in industry, an excessive rise in the quotations of shares, and general stock-exchange gambling. In order to counteract the fluctuation in the prices of stocks and bonds the Federal Reserve banks had to apply deflationary measures in spite of the stability of the commodity price level. A general collapse ensued. There cannot be any doubt today that a wrong distribution of the surplus of the national income, with a simultaneous stabilization of the price level in the United States, was one of the most important causes of the general crisis.

The second, and far more important, question touches upon the general economic doctrine linked up with the concept of a managed currency as closely as free trade used to be linked up with the idea of the classical gold standard. We realize at once that free trade cannot be an ally of managed currency, which requires the stabilization of the price level. So far as economic liberalism is concerned it is not the stability of the price level but its elasticity which represents the point of gravity, just as in the case of the automatic classical gold standard. It would be easier to trace a logical connection between managed currency and socialism, but even there fundamental divergences exist. So far as socialism is concerned, the postulate of profitableness, especially of a permanent one, does not exist at all in the sense understood by the adherents of managed currency. The conception of a managed currency may perhaps be most appropriately related to solidarism and economic nationalism. However, these doctrines are not as cut and dried as free trade or socialism is, and may be regarded rather as eclectic forms of a mixed type. Thus it is clear that none of the main traditional doctrines of general economic policy is as closely tied up with the conception of managed currency as free trade used to be tied up with the classical doctrine of the gold standard.

However, in the light of the preceding analysis we perceive the general outlines of a new economic policy based upon a new principle. If we would like to define this new principle in one word, we would call it "proportionalism." For the stabilization of the price level assumes the postulate of a permanent profitableness of production. This postulate assumes, in turn, the stability of the interrelation of the various prices. Such stability cannot be achieved and maintained unless the production of goods and services develops proportionally or at a uniform pace. Thus the point of gravity rests in the *proportionalism of production and exchange.* This is a new principle of a new economic policy. Just as free trade was a guiding principle during the nineteenth century and dominated its economic thought, so proportionalism seems to be the guiding principle in the twentieth century; and just as free trade was linked up with the classical gold standard, so proportionalism will be linked up with managed currency.

Will it be possible, however, to introduce proportionalism thus conceived by means of the stabilization of the purchasing power of gold?

STABILIZATION OF THE PURCHASING POWER OF GOLD

The scientific propaganda advocating the stabilization of the purchasing power of gold indicates three principal means leading to this goal. The first is the elasticity of the mint par of exchange of the monetary unit. The second consists in the application of a discount policy which would neutralize changes in the level of prices. The third is a combination of these two.

The chief supporter of the first method is Irving Fisher, who, as already mentioned, urges the raising or lowering of the metal content of the monetary unit whenever a specially calculated price index rises or falls. Gustav Cassel is the advocate of the second method. According to him a fall in the rate of interest "to zero" must cause the level of prices to rise; and, conversely, with an increase of this rate "to 20 per cent," the level of prices must fall. From this he draws the conclusion that "at any given moment there is a discount rate to be found between these two extremes, which will leave the general price level unaltered."[4] Keynes is considered to be the leader of the third school of thought, which combines the elements of the two others. He retains the principle of the elasticity of parities but not as rigorously as does Fisher, who requires a virtually automatic change in correspondence to the fluctuations of the index of prices. Keynes also adopts Cassel's postulate of a discount policy severed from the status of gold reserves and applied solely in order to neutralize wider fluctuations in the price level.

It is simplest to determine the drawbacks of the second method. Experience under practical conditions has shown that the central bank can only to a certain degree inhibit the upward trend of prices by applying a sufficiently drastic deflation at an early stage. Moreover, as to the downward movement of prices during depressions, the central bank is powerless. Even if the bank rate is reduced, an expansion of credit and an increase in money circulation do not ensue, since during economic crises the volume of production shrinks, business turnover declines, and there is a shortage of prime commercial bills on the market. It is difficult to increase actual credit granted when the money market does not need it and prefers to redeem old obligations instead of contracting new ones. In addition, good or bad harvests, the conclusion of national or international agreements which fix the prices of the more important commodities, changes in the tariff policies of the various countries, and the like, hinder the application of a discount policy which would maintain the level of prices virtually unchanged. From this point of view the policy of stabilizing the purchasing power of gold would have to be based primarily on international collaboration. A local stabilization of the purchasing power of gold is an illogical fiction since gold is an international standard.

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[4] "Wandlungen im Wesen der Goldwährung," 1930.

The main difficulty, however, lies elsewhere. Price indices inform us of changes which have already occurred. Yet the central banks need statistical data which would inform them of changes before they occur. If the central banks do not acquire such data they will not be in a position to cope with the coming changes, and it is, after all, necessary to prevent possible occurrences and not merely to liquidate accomplished events. We are still very far from such perfection in statistical methods, and it is very doubtful whether it will ever be reached.

These practical difficulties do not, however, resolve the problem. Theoretically it is possible to imagine ideal conditions of peace, free trade, good will, co-operation, and perfect statistical methods. It is however, necessary first to examine whether the stabilization of the purchasing power of gold is at all possible within the system of the gold standard, based on the production of gold as one of the chief conditions of its functioning.

The continuity of economic progress is an absolute theoretical postulate inherent in the conception of a stable level of prices. It has been proved, however, that proportionalism in the redistribution of the annual surplus of the national income is a condition no less important. More detailed theoretical arguments to this end are not required in view of the concrete experience of the United States in 1923-1929. Sooner or later a wrong proportion in the redistribution of the surplus of national income makes it impossible to maintain the stability of the price level. This applies in particular to the share of labor in the surplus of the national income earned by the common efforts of labor and capital.

Those in favor of stabilization of the purchasing power of gold realize this requirement. It has been best formulated by Sir Henry Strakosch,[5] one of the most ardent supporters of Cassell and a great authority on matters connected with the production of gold. Strakosch holds that the redistribution of the annual surplus of national income should be effected between capital and labor according to the "constant proportions of the original account." He even goes farther, since he recommended "a system by which the wage-earner's due proportion of the increased production is currently—almost automatically—transferred to him." Theoretically he is quite right. Keynes also favors stabilization of the price level accompanied by a gradual increase in wages and salaries.

Let us imagine that the price level is stable and that wages increase annually in consequence of an increase in the national income. The stabilization of the price level of goods will be maintained at the cost of the unstabilization of the wage rates. Theoretically this is to some extent contradictory. In practice the question is whether production can bear a steady systematic increase in wages which would be tantamount to a continuous increase in one of the main components of the costs of production.

So far as consumers' goods and producers' goods are concerned, it is conceivable that a steady increase in wages can be neutralized by technical inventions and steady improvement in the utilization of labor. It must also be recognized that the stabilization of the price level is not equivalent to absolute rigidity of individual prices, the fluctuations of which will vary within the limits of, say, 10 per cent. Thus, taking into account the possibility of such fluctuations and the economies effected in costs of production other than those of labor, economic conditions could adapt themselves to the new system.

There is, however, one domain of production which under these new conditions would find itself in a most difficult position. This would be the extraction of gold under the gold standard. In the event of a stabilization of the level of prices, the possibility of a larger production of gold would be reduced. Assuming that the national income increases 3 per cent annually, wages would then double in about thirty years according to the calculation of Sir Henry Strakosch. Under such conditions the production of gold cannot remain profitable, since the price of gold under the gold standard is absolutely fixed and unchanging.

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[5] "Gold and the Price Level," supplement to *The Economist*, 1930.

With diminishing profitableness private initiative can not keep the production of gold in its hands. Sooner or later the necessity arises of expropriating the gold mines either by the state or by an international company having the character of a public-utility institution. Something of this kind was proposed by Professor Lehfeldt twelve years ago. In this event, however, the losses would have to be covered from the taxpayer's pocket. It is not a tempting proposition, for the losses will rise from year to year, and the fiscal burden would have to be correspondingly increased. Thus it is obvious that the stabilization of the purchasing power of gold is not compatible with the gold standard, based upon the production of gold and a constant price of gold paid by the mints and central banks.

Further arguments can be given in support of this conclusion. The demand for gold is in principle unlimited. Objectively speaking, everybody desires to accumulate wealth and for this purpose searches for gold. The objective demand for gold, however, depends upon the rate of economic progress. Under favorable economic conditions the ability to purchase gold with other goods and services grows. Harvest failures, wars, and miscalculations in economic policies are the causes of longer or shorter periods of impoverishment; in such cases the ability to buy gold temporarily declines, although the subjective desire to buy does not decrease but even increases. In the long run the demand for gold shows an upward trend, but the supply does not increase at the same rate, since the production of gold does not depend solely on the human will but also upon the natural resources.

In the light of history the demand for gold increases more rapidly than its supply. In economic terminology this is synonymous with the tendency of the exchange value of gold gradually to grow in view of the fact that demand is always exceeding supply. We thus come to another important observation: economic progress takes place under the influence of two opposing tendencies: the exchange value of gold increases continuously, and the price of gold tends always to remain stable. This is one of the more important economic laws.

The fundamental factor, as we know, is exchange value; price is only a derivative concept. In face of the opposite trends of the exchange value and of the price of gold, the later must, sooner or later, adjust itself to the former, i.e., it has to rise when the exchange value of gold increases excessively. A devaluation of the monetary unit then ensues. The history of money through the centuries has demonstrated the justice of this law of evolution. The Roman copper "as" was subjected to gradual devaluation. The same fate overtook the livre and the silver mark as units of weight. Gold currency is no exception. Monetary units are being debased more and more. It could not be otherwise as the exchange value of monetary bullion has been steadily rising through history. Sooner or later, the price has to adapt itself to it. Perhaps it is not purely fortuitous that the average of the devaluations effected during the latest crisis amounts to about 40 per cent. This corresponds, more or less, to the fall of world gold prices, which means the increase in the exchange value of gold.

Thus we reach the conclusion that the stabilization of the purchasing power of gold cannot be achieved by means of discount policy, as in practice it is counteracted by many specific difficulties. However, not only is discount policy ineffectual for this purpose, but elasticity of the bullion parity or even a combination of both methods must also fail. In other words, the stabilization of the purchasing power of gold is in general illusory.

A classical confirmation of this can be found in Irving Fisher's well-known proposal to change systematically the bullion content of the monetary unit according to fluctuations of the official price index. The practical meaning of this proposition is that an ounce of gold will continuously change in purchasing power. A decrease in the gold content of the monetary unit will be equivalent to a growth in the purchasing power of gold, and an increase to a fall in the latter. Thus this new system would consist of a *continuous manipulation of the purchasing power of gold in order to maintain a relative stability of the level of prices expressed in the units of the local national money.* The elasticity of the bullion price, whether the rigorous one proposed by Irving Fisher or the liberal one proposed by Keynes, will always be tantamount to the *manipulation of the changing purchasing power of gold* in order to assure the relative stability of domestic prices.

Thus we must finally realize that the aim of a stabilization policy is not the purchasing power of gold but the *purchasing power of the national local currency.*

So far theorists as well as practical economists have identified the purchasing power of gold with the purchasing power of money. Even the Gold Delegation appointed by the League of Nations in 1929-1931 made this identification. There can be no doubt, however, that the *identification of these two purchasing powers is not well grounded.* Having reached the conclusion that the stabilization of the purchasing power of gold is impossible under the existing gold standard system, we shall investigate whether the stabilization of the purchasing power of a local currency has any better chances of realization.

STABILIZATION OF THE PURCHASING POWER OF MONEY

Assuming the possibility of stabilization of the purchasing power of money in spite of the unavoidable processes of devaluation, we realize at once that such a policy has only one method at its disposal: to combine the changeability of the bullion parities with the elasticity of the bank note issue, at present the prevailing form of money. The processes of devaluation will, however, always produce shocks to a greater or smaller extent. Thus the elasticity of the note issue will be still more important, not only in order to neutralize the fluctuations of the price level of goods and services, but also the consequences of changes in the price of gold. But this necessarily implies great freedom of the central bank's issues from stocks of gold or foreign exchange. Thus disregarding practical difficulties which cannot be considered as decisive in a scientific analysis, we must first examine whether an elasticity of issue so broadly defined is at all compatible with the nature of money.

The principle of elasticity of issue is contrary to the principles of the Ricardian doctrine, which postulated the adaptation of the issue to the movements of gold: a shrinkage in money circulation with an outflow of gold, and expansion with an inflow of gold into the country. If a central bank is aiming at a stabilization of prices, its action should not be inhibited by the status of its gold stocks. The requirement of a minimum gold reserve thus becomes an anachronism. Postulating such independence of issue from gold and reserves, we encounter another difficulty: the maximum figure of issue which the central bank should not exceed at any given moment.

The history of central banks contains an example of a bank not limited by the requirements of a minimum reserve. This was the Banque de France from the time of Napoleon up to 1926 or 1928. In this case there was a statutory limit of the note issue which could not be exceeded even if new purchases of gold were possible. New legislation changed the limits of the issue from time to time, in most cases to meet the needs of the Treasury, but this was not always a desirable feature of the system.

Seeking the theoretical justification for the limits of a note issue severed from gold, we can facilitate our task if we recall the evolution of various forms of money from the earliest up to present times. Reviewing the past we are at once struck by the gradual process of a dematerialization of the forms of money. In a primitive economy man utilized goods which not only served to satisfy his needs directly, but which could also simultaneously play the role of a medium facilitating the exchange of goods and services. This was the most primitive form of money which we may call "circulating commodity." Gradually precious metals began to force out other goods, themselves remaining at the same time a form of "circulating commodity." A higher state of evolution was attained in Europe when Greek civilization introduced coins.

A coin was something more than a "circulating commodity," since its function as currency eclipsed the value of a given piece of metal for direct consumption purposes. A quantity of coins constituted a sum of money, and not of goods. The next step was the invention of the bank note. Today coins are disappearing from circulation and the bank note has become the most dominant form of money. In countries having a high level of economic organization, the check is in turn forcing out the bank note. Money seems to be gravitating towards the role of an abstract unit of account. This lends support to the validity of the generalization that the evolution of the forms of money appears in history as a gradual process of dematerialization.

The institution of "legal tender" in time became the competitor of the substance used for coins. By legal tender we understand the privilege given by the state to a particular form of money. In ancient Greece, legal tender was invented by Solon, who thus sought to reduce the excessive burden of indebtedness. In the time of the Roman Empire the principle of legal tender was applied to assure the treasury the profits accuring from the debasement of coins. The role of legal tender as a compulsory currency appeared with special force during paper inflations. We see that the evolution took place not only as a gradual process of dematerialization of the forms of money, but also as a simultaneous gradual growth in the importance of legal tender at the expense of the money substance.

At first the historical success of legal tender does not appear very clearly. So long as the metal content of coins does not change, legal tender as an additional trait of coinage does not have any practical meaning. The creditor in accepting payment in coins receives the same money which he lent. The situation changes when devaluation ensues. Then the creditor has to accept payment in the new devalued money because he is compelled to do so. Now legal tender is decisive. This also applies in the case of bank notes. As long as the bank note is convertible into gold and the monetary law remains unchanged, the legal tender of the bank note is of no consequence. If, however, devaluation ensues, legal tender is decisive for the acceptance of payment by the creditor. A similar situation arises when a country introduces a gold bullion standard, reserving the convertibility of its bank notes only for foreign payments.

The question remains, Why is such a circulation possible at all? Why does the creditor accept not only the discharge of debts in the new money but also why does he continue to lend in spite of the loss he suffers? Why does not credit disappear, but in the face of the losses incurred by the creditor, continue to develop? The law explains only the fact that the creditor accepts payment in a depreciated money; his readiness to continue to lend demands, however, some further elucidation.

The answer is furnished by the readiness of the state to accept taxes in the new money or in money undergoing depreciation. Even an inconvertible bank note, i.e., a pure paper form of money, will continue to be accepted by the citizens because they can use it for the payment of taxes. The bank note, though it is not convertible into gold at the central bank, *is in a way convertible into public services because the citizens pay taxes in this paper money*. The more public services the state supplies and the higher the taxes it collects to this end, the more possibilities it gives to its citizens to pay in paper money, and the more easily such a money circulates.

The influence and scope of the state's economic activities are growing everywhere and this favors legal tender. As a result the process of dematerialization of the forms of money is accelerated, but this does not change the economic nature of money as such. If bank notes are inconvertible into gold, they must all the more be convertible into public services. Thus, although apparently money seems to be becoming less material, though the state plays an increasingly greater role in its creation, and though credit money is more and more in use, money is not and never will be a fiction having nothing in common with actual economic values. Money is not and never will be an illusion, although it has been the cause of so many illusions.

In the light of these considerations the question of the limits of a note issue severed from gold becomes a little clearer. Abolition of statutory requirements with respect to the minimum reserve of gold or foreign exchange should not be tantamount to unrestricted freedom of issue. A new mistake should not supplant an old one. The theory of money does not, however, furnish any practical criterion in limiting the printing of money when the issue is divorced from gold. The establishment of a new regulating factor in the place of gold remains an open problem. An attempt to find an explanation can be made only now that we have ascertained that the nature of money consists not only in its substance but also in its legal tender.

Because the economic basis of legal tender consists in the convertibility of bank notes into public services, it is obvious that there must be some *relation between the total sum paid into the treasury and a note issue severed from gold.* Various relations of these two factors are possible, and the proper one can only be found by the process of actual experience. The simplest course would be to define the limits of a note issue severed from gold as the total, in round figures, of taxes and other payments paid into the treasury during the year preceding that when the first statutory quota was fixed. It would then be possible to increase or decrease the annual quota of the statutory note issue in accordance with the increase or decrease of fiscal receipts.

The limit to the note issue would become independent not only of the gold reserve but, and this would be most important, of political influences which, as a rule, tend to the abuse of inflation. It is well known that political influences never tend to increase taxation, while it would be only by increasing taxes that the note issue could be raised.

However, the simplest solution is not always the best. An increase of the issue quota when the revenue from taxes increased seems both logical and practical, because a higher quota would neutralize a heavier fiscal burden. A similar situation would arise when the state reduced taxation, since a lower issue quota would then suffice. If, however, an economic depression began and the revenue from taxes decreased despite higher public levies imposed to meet budgetary deficits, then the reduction of the issue quota would have a deflationary influence and accelerate the fall of prices. For this reason the simple rule given above is incompatible with the postulates of a policy of stabilization. It is necessary to find a less simple but more practical formula.

An example of a more complicated formula, but one which at the same time is more in accord with the postulates of a stabilization policy, can be found in the following proportion between the note issue and the scale of taxation. Let us, for instance, calculate the aggreate sum of all national and local government revenues during the year preceding the year of the reform of central banking. The national income of the same period should then be calculated. It would now be possible to ascertain what percentage of the national income is represented by the total gross sum of public revenue. Once this percentage is known, it can be applied for the calculation of the issue quota. This quota should constitute such part of the gross total of the fiscal revenue of the national and local governments as this gross sum is of the total national income. If the national income were twelve and a half billions and the aggregate fiscal revenue five billions, i.e., 40 per cent, then the issue quota should be 40 per cent of these five billions, that is to say two billions. By applying such a principle we would be assured against the necessity of an automatic contraction of the issue when the fiscal revenue decreased with the onset of a depression. During depression the national income decreases more quickly than fiscal revenue, as a result of the fall in the price of goods. This means that the relative participation of public bodies in the national income will increase and it would not be necessary to diminish automatically the issue quota in line with the drop in fiscal revenue.

Analysis of the problem of stabilization of the purchasing power of money has led us to the postulate of the reform of central banking. This reform should be based upon the *principle of a relatively permanent proportion between the total sum of fiscal revenue and the issue quota of notes not covered by gold.* There may be various methods of reckoning such a proportion. This does not, however, change the essence of the new monetary system. The monetary unit will continue to be defined as a fraction of a kilogram of gold. Bank notes will continue to be convertible into gold or foreign exchange, as far as the payment of foreign indebtedness is concerned. Within the country, however, they will cease to be convertible into gold. They will, on the other hand, be convertible into public services and this is the real economic significance of legal tender. This convertibility will be regulated by a permanent proportion between the total sum of fiscal revenue and the figure of the issue-quota.

The price paid for gold by the central bank will have to adapt itself to the increase in the exchange value of gold. It will not be possible to avoid devaluation processes. This will cause more difficulties to gold producing countries than to countries which have no gold mines. In any case the shocks of devaluation will affect directly only international exchange, for inside a country the central bank will have an issue independent of gold. The neutralization of these consequences will, however, be possible. The central banks will be able to maintain relative stability of the price level by appropriate manipulation of discount policy and the issue of bank notes.

It will not, however, be an absolute stability, which is impossible and even undesirable. Mild fluctuations within the limits of 10 per cent will facilitate the adaptation of production and exchange to the conditions created by the continuity of economic progress, and a proportional redistribution of the surplus of the national income between capital and labor. Technical inventions and a progressively better organization of labor will neutralize the gradual increase in wages. Adjustment of price levels to new conditions will take place at rare intervals, but after each such adjustment a relative stability of the level of prices will ensue again and last for some longer period of time.

On paper this seems to be quite simple. In practice, however, stabilization policy in the above sense will meet great difficulties. We cannot foretell whether it will be possible to overcome them at all. Theoretically, however, practical difficulties do not disprove the validity of the postulate itself. The stabilization of the purchasing power of money is, in theory, possible in spite of the impossibility of stabilizing the purchasing power of gold. There is no contradiction in this.

In conclusion of this section a few general remarks are in order. In the first part it has been stated that the stabilization of the price level postulates the stabilization of the proportions of the production of goods and services.

The direct binding together of fiscal and monetary policies means *the inclusion of the production of public services within the general problem of the permanent proportions in which production and exchange should be maintained.*

The postulate of proportionalism is extended, as we see, to the production of public services, the role of which is steadily increasing in national economy. *The overproduction of public services leads to excessive taxation and this exerts a disturbing influence not less important than that of the disproportion between agricultural and industrial prices.* Once more we come to the conclusion that the idea of a stable level of prices *implies proportionalism* as its essential condition.

It still remains an open question whether for the realization of such a policy, recourse to a monetary policy will be sufficient, or whether the introduction of measures of a nonmonetary nature would not be necessary.

NONMONETARY MEASURES

The policy of stabilization encounters such practical difficulties that in spite of a theoretical possibility the objective seems unattainable. I shall mention two of the most important.

The first is connected with the elasticity of issue, constituting, as we have seen, a *conditio sine qua non* of the success of stabilization policy in a dynamic, progressive economy. If, however, we apply the principle of elastic issue we must, whether we want it or not, render more delicate the part played by the interest rate as regulator of the proportion between savings and the scale of investment.

In a premonetary economy, or in a theoretically conceived static economy, the interest rate is a "natural" rate. We usually mean by that a rate under which the demand for capital and the supply of capital in the shape of real savings are equal. The economic system is then protected against an excessive production of capital goods, because the "natural" interest rate maintains such production within the limits of real savings. The rhythm of investment cannot in such conditions exceed the rhythm of savings. This is impossible in practice.

The situation changes, however, with the appearance of money, especially when elastically and freely issued. The money rate deviates from the "natural" rate. The supply of funds exceeds the amount of real savings. The money rate falls below the "natural" rate. Consequently, the rigid relation between national savings and the creation of real capital tends to disappear. Disproportion between the formation of capital and the rhythm of investment is thus rendered possible. A relative overproduction of capital goods is the consequence. A fatal cyclical tendency of economic development is born under which an excessive production of capital goods in periods of boom is followed by a more or less disastrous depression.

Many economists, mainly Hayek, have drawn attention to this aspect of the problem of cycles. The importance of their reasoning on the chances of stabilization policy has been very justly emphasized by Gayer.[6] In his opinion "the rate of interest which would keep prices stable is different from the rate which would preserve equilibrium between real savings and the volume of investment." Therefore, a stabilization policy based on elastic note issue undermines itself, leading finally to disequilibrium between real savings and the volume of investment. The cyclic tendency of economic development, attacked in front by an elastic note issue, returns sooner or later through the back door.

A similar conflict between theoretical elements exists on the savings side. We do not mean free savings only, but compulsory savings as well, imposed on the national economy by taxation of all kinds. The expansion of public budgets is followed by an increase in the dynamic role played by compulsory savings expressed in the volume of fiscal burdens. This cannot remain indifferent to stabilization requiring elastic issue detached from gold and regulated as to the limits of its volume by the level of annual fiscal receipts. Thus, through the issue quota, determined by the volume of fiscal receipts, a logical connection is established between the problem of stabilization of the price level and the volume of savings. The question arises, however, whether an increase in savings, especially in compulsory savings, does not interfere with the proportionalism of production and exchange, in the absence of which the stabilization of the purchasing power of money is bound, sooner or later, to break down.

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[6] Arthur D. Gayer, *Monetary Policy and Economic Stabilization*, 1935, p. 272.

In the case of voluntary savings the seller of goods or services produced by himself does not spend immediately the full amount realized on his sale, saving a part of it for future needs. If the money thus saved is hoarded, the volume of purchasing power on the market is curtailed in the same proportion. We have then a direct deflationary influence. If, however, a part of the income thus saved is put on deposit with a bank to be transformed later into a loan granted to someone in need of credit, we cannot speak of a direct deflationary influence. Nevertheless we have there a certain delay between the time of the sale of goods or services and the time of spending the full amount realized by this sale. In this case too we have therefore a deflationary influence, but an indirect instead of a direct one. With justification did Keynes prove in his recent book[7] that "a low propensity to consume" in a country suffering from underemployment counteracts the increase in capital rather than encourages it.

The matter becomes more obvious in the case of compulsory savings. Every producer of goods or services has to pay taxes, and thus gives away a part of the income realized by the sale of his goods or services. This part of his income is disposed of by public bodies. But some time will elapse before the taxes collected reappear on the market in the shape of public expenditure. This part of national income is delayed in its appearance on the market as demand for other goods or services. Moreover, public expenditure is not as elastic as that of individuals. Public bodies spend money on the production of public services or on public utility investments, such as armaments, public buildings, or roads. There is a large range of goods and services which no public body ever purchases.

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[7] J. M. Keynes, *The General Theory of Employment, Interest and Money.*

Statisticians have calculated that the share of public bodies in the redistribution of national income increased by 100 per cent from 1913 to 1929, i.e., within only fifteen years. During the recent depression this percentage increased in consequence of the general fall in income with a simultaneous increase in taxation. In some countries the receipts derived from taxation of all kinds exceed nowadays 50 per cent of the national income. In the light of the above remarks the deflationary influence of savings of this kind becomes drastically evident. The more the money collected in taxes, the larger the part of the national income which has to take a *circular course*, coming first to the public *caisse* before returning later to the market as demand for a relatively limited and rigid volume of goods and services.

The cross crucifying modern economy is not made of gold but of excessive taxation exercising a deflationary influence similar to a fall in the production of gold.

It goes without saying that the influence, deflationary in principle, of savings of all kinds can be mitigated. An expansion of the note issue comes into effect in the first place whenever the price level shows a serious downward tendency. However, here starts the conflict between the theoretical elements of stabilization policy.

The limits of the note issue should be determined, as we have seen, by the amount of fiscal receipts. An expansion of issue will be followed, sooner or later, by the necessity of increasing taxation. In our desire to avoid the deflationary results of taxation we shall enter the path of increasing this taxation. It means that we shall try to remedy deflation by further deflation. We arrive at a vicious circle. Now suppose that the note issue is divorced not only from gold but from the volume of fiscal receipts in determining the annual limits of economically justified issues. Confidence in the currency will rapidly disappear, because the monetary system will be deprived of any regulator at all. A flight from money into commodities will follow, and the price level will be unstabilized. The stabilization policy will end in unstabilization or bankruptcy.

This contradiction between theoretical elements is still better shown by an additional factor, observed and emphasized by many economists, including Aftalion, Carver, J. M. Clark, Paul H. Douglas, and others. As a result of their work it is now an incontestable thesis that the fall in the demand for consumers' goods is followed by a much deeper fall in the demand for capital goods. If, for instance, the demand for clothing falls by 10 per cent, it is followed by a fall in demand for textile machinery of, say, 20 per cent. Thus the deflationary influence of savings, especially compulsory savings, is strengthened in consequence of this relation, because *excessive taxation, if expressed in a fall in the demand for consumers' goods, is bound to bring about a deeper fall in the demand for capital goods.* The equilibrium between production and exchange is then upset. The proportionalism of production and exchange disappears. The policy of stabilization cannot be maintained.

In the light of these results we can take it as incontestable that stabilization policy, to be successful, *cannot limit itself to manipulating note issue and has to adopt at the same time measures of a nonmonetary nature.* There is nothing new in that to economists, but from the practical viewpoint an answer is required as to what these nonmonetary measures should be.

They cannot be deduced from the "exchange equation" as adherents of the quantitative theory of money usually formulate it. By the terms of this equation the price level of goods varies directly with the quantity of money plus the rapidity of circulation, and inversely with the quantity of production of these goods. The simplicity of an equation so construed constitutes its merit. Its weakness lies in its simplification of the problem, ignoring as it does the production of public services as well as their money value, i.e., the volume of taxation. That is a cardinal defect in view of the increasing role played by public economy in the total national economy.

Suppose that the price level shows a serious downward tendency. The exchange equation recommends in such a case an increase in the quantity of money and an acceleration of its circulation, or a curtailment of the production of goods, or else both at the same time. The expansion of circulation as a practical means of stabilization policy does not yield the direct and easy results promised by the theoretical formula. No better prospect is afforded by curtailment of production in response to the downward tendency in prices, because it means a fall in national income, i.e., it interrupts the continuity of economic progress essential for the success of stabilization policy in the long run. I mean "in the long run," because immediate transitory results may differ both under expansion of issue and curtailment of production. This, however, has no decisive influence on the final *stability of stabilization.* And that is the matter to be considered from both the theoretical and practical point of view.

More benefit to stabilization policy seems to be derived from the exchange equation as formulated by J. S. Robertson.[8] According to him "prices vary directly with the amount of consumers' income and inversely with the production of new goods." If, therefore, prices begin to fall, one should either increase consumers' income or curtail production. I pass over the latter alternative because it interrupts the continuity of economic progress. However, as far as an increase in consumers' income is concerned, Robertson's equation does not merely apply to the expansion of issue which, as we have seen, is not enough for stabilizing stabilization.

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[8] J. S. Robertson, *The Income Theory of Prices,* 1935.

The national income is composed of the incomes of individuals received as wages, salaries, pensions, dividends, and interest. Robertson, however, underestimates the growing importance of the part played by the amounts spent by public bodies in salaries. According to him public bodies act "merely as distributors," because they spend what they have collected in taxes of all kinds. If, for instance, one half of the national income has to go first to the public *caisse* before returning on the market in the shape of demand for goods and services, this half of the national income, which is identical with one half of the total purchasing power, is delayed in its exchange function. This delay in time becomes a more and more important element of modern economy and can no longer be ignored, as it has been heretofore.

My point is corroborated by the fact that salaries paid by public bodies constitute an independent element in Robertson's equation. They depend on the one-sided decision of public authorities, guided by the scale of fiscal receipts and not by prices. The latter come into the picture only inasmuch as fiscal receipts have already been reduced in connection with a fall of prices on the commodity market.

We reach the conclusion that Robertson's equation, correct in theory, requires completing from the practical viewpoint. Prices vary directly with consumers' incomes. That is a general truth. Dynamically, however, this takes place nowadays *mainly* by fluctuations in the level of salaries paid from public funds. Under the present expansion of public budgets and the growing share of the public bodies in the redistribution of the national income, more and more frequently does Robertson's general equation require completing by another, secondary equation, important within the general equation: *Prices of goods tend to vary directly with changes in the scale of public salaries and inversely with the production of new goods.* The theoretical meaning of this formula consists in its inclusion of the production of public services by public officials, paid for out of public funds, in the general problem of proportionalism of production and exchange.

This inclusion permits us to deduce the first and most important recommendation of a nonmonetary character, namely, the necessity of *continuous harmony between the budget policy of public bodies and the issue policy of central monetary authorities.* I mean harmony in mastering excessive fluctuations in the price level by maintaining the right balance between the various branches of production and exchange, including the production of public services. Until now budget policy has not sufficiently taken into account the necessity of adapting itself to changes in business conditions.

However, the economic meaning of increasing taxation in periods of falling prices should be emphasized. Taxes constitute, as seen, a kind of price paid for public services by industry, agriculture, and trade. Therefore, an increase in taxation while prices are falling amounts to *raising the prices paid compulsorily for public services at a time when prices of nonpublic services and of commodities go down.* That means a complete contradiction of the postulate of proportionalism's constituting the basis of stabilization policy. If we want, therefore, to stabilize the price level, budget policy should also submit to the principle of proportionalism. Prices of public services, expressed in the rate of taxation, will then harmonize with prices of goods and nonpublic services. Changes in the total volume of goods and services will take place in one direction only, that is, taxation will be reduced with falling prices instead of being raised as is now the practice.

It is obvious that if this principle is applied to fiscal policy, equivalent changes will be required in budget policy. If fiscal receipts show a decline in consequence of a fall in prices and a reduction of turnover, and we nevertheless proceed to lower tax rates, some cash reserves are needed to cope with the budget deficit. Where can such reserves be found? They can be accumulated in times of prosperity when revenue exceeds expenditure. This principle is contrary to the present practice which usually follows Vauban's method: total expenditure is fixed at some anticipated level and then revenue is made to meet this total. Business conditions are not taken into account. No wonder, therefore, that under a system of this kind expenditure grows rapidly in times of prosperity through the expansion of public activity and rising salaries. When depression sets in, expenditure cannot be reduced rapidly enough and public bodies increase fiscal pressure upon a declining national income.

The same can be said about public credit. Issues of loans, especially for financing public works, have more justification in times of depression than in times of prosperity. However, the usual practice is different. In consequence of this mistaken budget policy the struggle against fluctuations in the price level, undertaken by the monetary authority through an expansion of the note issue, cannot attain its aim. What good is done by proper monetary policy is spoiled by bad budget policy. Instead of co-operation we usually have a conflict of efforts. Instead of curing the depression or moderating the boom we usually either deepen the first or accentuate the latter.

Stabilization policy cannot be reconciled with the traditional anachronic budget policy practiced nearly everywhere. A new budget policy is required, allied with monetary policy in a common effort to master the excessive amplitude of cycles in economic development. The new budget policy should in the future adopt the following principles: (1) the rates of taxation should vary more or less directly with changes in the price level; (2) the amount of public expenditure should vary more or less inversely with changes in the price level. The matter to be considered is not mathematical strictness, but a *relatively stable proportion between the prices of goods and the prices of public services*. We have there the conception of a "dynamic" budget, a conception known in the theory of budget policy, but ignored in practice.

The different methods for realizing such a policy cannot be entered into here for lack of space. With regard to taxation policy, it would perhaps be most convenient to adopt a system of relatively low basic rates, legally modified from time to time, and to introduce a supplementary rate to be changed by fiscal administration according to fluctuation in the price level. It would be a relatively automatic system, guaranteeing the possibility of maintaining the original proportions between prices of goods and prices of public services. As to investment of reserves accumulated in times of prosperity, public works seem to enjoy the greatest popularity as stimulants of economic activity. However, the weakness of public works is the necessity of reducing them with the exhaustion of reserves and credit.

Aside from the reform of budget policy, there is another domain where the principle of proportionalism should be observed if stabilization of the price level is to be successful. I mean the investment of long-term credit. The part played by this credit both in individual countries and international relations is increasing.

The traditional system is based on the "sanctity of the loan contract," establishing for dozens of years in advance the plan of amortization payments and the interest rate. I omit the problem of amortization payments as playing no essential part. The center of gravity lies with the rigid interest rate, because in consequence of this rigidity we have a situation contradicting the principle of proportionalism.

The interest on borrowed capital constitutes a *sui generis* price for the respective credit service. If, therefore, the prices of goods vary while the price of credit remains unchanged, we witness a contradiction of tendency which, if fluctuations are considerable, can upset the equilibrium of production and exchange. It is peculiar that long-term contracts concerning the supply of gas, electricity, and so on, always include an elasticity clause permitting the adaptation of prices to changing business conditions. No bank would ever consent to advance funds to a debtor bound by an agreement without this elasticity clause. In spite of this no bank would likewise dare to give up the principle of the "sanctity of the loan contract" whenever financial credit is concerned.

The consequences of the traditional inelastic system are deplorable. When prices of commodities go up, debtors can easily pay even a high interest rate and they willingly contract new liabilities. The rigidity of the interest rate therefore encourages excessive indebtedness which in its turn is bound, sooner or later, to bring about the painful process of liquidation. At a certain moment debtors will repay more than they borrow. In consequence, the velocity of circulation slows down. Prices receive the first downward impulse. The real weight of old debts begins to increase. The amount of goods supplied by debtors exceeds the possibilities of demand. Prices continue to fall. At the same time it becomes more and more difficult to pay debts. Bankruptcies appear and confidence is shaken. It is the too well-known spiral, so expressively cited by Irving Fisher in his "debt-deflation theory." According to his interesting statistics, total internal indebtedness fell in America in the years 1929-1933 nominally by 20 per cent but the real burden of debts in 1933 was 40 per cent heavier than in 1929, because in the meantime the purchasing power of the dollar had increased so much owing to the disastrous fall in prices.

Not only does sad experience testify against the principle of the inelastic interest rate on long-term credit, theoretical analysis is equally unfavorable. What does the debtor pay the interest from? He pays it from new additional production, started with borrowed capital. However, the total amount of all interest due can be paid only on condition that there is a surplus of national income. If there is no such surplus, there is nothing to pay with. There is an obvious connection between the problem of the interest rate and the total national income.

The closeness of this connection is indirectly illustrated by figures for the United States quoted in one of Irving Fisher's publications.[9] In 1929 the national wealth aggregated 362 billion dollars. Total internal indebtedness amounted to 200 billion dollars, i.e., over 50 per cent. By 1933 national wealth was reduced to 150 billions, while the volume of debts had fallen to 160 billions only, so that its value exceeded that of the total national wealth. Substituting national income for national wealth in 1933, we would get a still more striking corroboration of the importance of the connection existing between the rate of interest and national income.

Without going into further details, we come back to the conclusion that overindebtedness and especially too high and too rigid a rate of interest are bound *to engage an excessive portion of the surplus of national income for payment of interest at the expense of all other payments.* There can thus be no question of an equal redistribution of the surplus of national income, which, as we have seen, in its turn is bound, if absent, to upset equilibrium of production and exchange and to make the stabilization of the price level impossible.

The practical conclusion is now obvious. The reform of long-term credit should be based upon the principle of an elastic rate of interest. If, for instance, the price level has varied by more than 10 per cent, the interest rate should vary in the same proportion by virtue of the loan contract itself. We already have such a type of bond in industrial credit. These are bonds bearing a relatively low fixed interest which is increased by an additional bonus if the profits realized by the enterprise permit such payment. In the absence of profit there is no bonus. Why should not such a system be introduced into agricultural and public credit? Long-term bonds would then bear interest consisting of two elements: a low but fixed rate and an additional rate, changing in proportion with the fluctuations in the price index. Amortization payments would be made according to a plan following the fixed rate. Questions of what index to select and how to secure the co-operation of bondholders, which would then be necessary, are merely technical details. Experience would gradually teach how to improve the new system in practice.

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[9] *Mastering the Crisis,* 1934.

A more important question, that of the fixed basic rate, remains. In one of my previous publications[10] I have ventured the suggestion that the rigid rate should not exceed 3 per cent per annum. This suggestion is supported by the fact that the annual rate of economic progress, as shown by Carl Snyder, was expressed during the nineteenth century and up to the World War by 3 per cent. As shown above, interest is finally paid from the surplus of national income. In view of this relation, the basic rate on long-term credit *should harmonize with the rhythm of economic progress.* It may be mentioned in support of this thesis that in the long run the average land rent and industrial dividend gravitate more or less towards the average rate of economic progress. Figures for the United States are well known and I need not quote them here. If, therefore, land rent deviates considerably from 3 to 4 per cent, or industrial dividend deviates from the average rate of progress, some people will make a profit for some time at the expense of other people's losses. So disproportionate a system cannot be maintained for a long time; sooner or later an adjustment must be made.

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[10] *Credit and Peace*, 1933.

There is nothing new in that to the theorist. The average observer, however, labors under the illusion of large industrial profits, as sometimes happens. He makes no discrimination between the question of individual profits and the question of profitableness in the national economy as a whole. The latter is bound to gravitate in the long run towards the average rate of increase in total income, because only an actual surplus of national income permits payment of profits. The suggestion, therefore, that the basic fixed rate of interest on long-term credit should not exceed 3 per cent a year has a deeper meaning worthy of attention.

Aside from the method of a dynamic budget and the reform of long-term credit, there is one more problem concerning the prospects of moderating economic cycles and stabilizing stabilization.

Under the classical gold standard and liberal economy based on free competition, all elements of production were elastic, capable of more or less automatic adjustment, with one exception, namely, the price of gold. The price of gold constituted a kind of central axle with all other elements of production and exchange revolving around it. The situation has changed nowadays. There are fewer and fewer free prices, less and less elasticity in general. Trade-unions fix the prices of labor. Associations of producers fix the prices of goods and regulate the volume of production. Public economy has expanded, hampering private initiative. Moreover, the gold standard has lost its classical principles. The rigid, unchanging price of gold is replaced by a manipulated price. The system of one central axle, constituted under economic liberalism by the price of gold, becomes an anachronism.

To be strict, under a manipulated standard à la Keynes the price of gold will also be legally fixed, being thus a stable price. The difference consists in the postulate of modifying this price in the interest of stabilizing the price level, which means fairly often. The question arises, therefore, whether such variability can be reconciled with the traditional role of the gold price as the central axle of national economy. Will not an additional axle be needed under the new conditions created by a stabilization policy?

It is still premature to venture any definite answer. However, it is not accidental that we observe more and more frequently a tendency towards legal fixing of the price of other standard commodities. This applies mainly to the prices of grain and agricultural products in general. The question to be considered is that of *stabilizing, for instance, by legal intervention, the profitableness of agricultural production because it determines the profitableness of other branches of production.* It goes without saying that in a nonagricultural country the production to be considered may be that of some other standard commodity. The sense of such efforts consists, therefore, in finding *an additional auxiliary axle* for production and exchange, in place of the part heretofore played by the price of gold.

The definite answer belongs to the future. If, however, the traditional fixed price of gold should give way to a system of two axles, that is, a fixed price of gold and of some other commodity, this need not necessarily mean a definite victory of rigid economy over free economy. It may happen, on the contrary, that the state will legally stabilize the price of some standard commodity parallel to the price of gold in order to encourage elasticity in all other prices. A measure of this kind would no doubt constitute a symptom of planned economy. It would not, however, be socialist planning, but *planning of proportionalism,* constituting the *conditio sine qua non* of *stabilizing relative stabilization* and thus liberating humanity from the burden of excessive amplitude of economic cycles.

While an absolute exclusion of all fluctuations in the price level is unattainable and even undesirable, should not such a policy of moderating cycles be called a *policy of proportionalism* rather than a policy of stabilization? The concept of proportionalism is directly connected with economic dynamics, while the concept of stabilization originates rather from the theoretical concept of static economy. The former is therefore closer to practical life than the latter.

SWEDEN

INTERNATIONAL ECONOMIC RECONSTRUCTION REALIZED THROUGH RATIONAL MANAGEMENT OF FREE CURRENCIES

By Erik Lindahl

Economic reconstruction in the international field implies, above all, mitigation of the prevailing restrictions on international trade and on international capital movements. Since the present unsatisfactory state of affairs is partly due to the currency situation, the efforts to attain a freer international intercourse often take the shape of the demand for a reform of the monetary system.

This reform has been conceived by many as implying the introduction of an *international currency system*, based on gold and similar to that in force before the War. Psychologically this is easy to explain, since the prewar system certainly had advantages like those for which we are now striving. But this view overlooks the fact that certain essential conditions, essential for the proper functioning of an international gold standard, which were fulfilled before the War are now no longer present.

Among these conditions it should especially be brought out that there must be a general feeling of stability, a belief that each country will make every effort to maintain the established gold parities. Even if an international agreement to reintroduce a gold standard of the older type were now reached, this feeling of stability would still be absent. Most countries cannot be expected to take upon themselves the sacrifices necessary for the continuing maintenance of the system. The greatest of these sacrifices is that which would be entailed in carrying out an energetic deflationary policy in a single country. Experiences of the last years have proved that even a comparatively mild deflation brings with it great disadvantages, and that a radical deflation cannot possibly be upheld as a program for economic policy. Above all this is due to the rigidity of the wage system and the great burden of debts, both public and private. Since the maintenance of stable rates of exchange as a rule presupposes such a lowering of the level of costs on the part of a country whose balance of payments has become structurally unfavorable, what has just been said implies that one must take into account the fact that an international gold standard can break down under the first serious strain. Under favorable circumstances the system can, it is true, be maintained for a relatively long period. However, the consequence of the belief that it can break down at any moment is that it would not furnish the same solid basis for trade and international credit operations that the prewar gold standard furnished.

During recent years, therefore, the demands for the reintroduction of the gold standard have naturally been somewhat modified. In the first place it is recognized that changes in gold parities should be allowed when this is absolutely necessary in order to avoid the breakdown of the entire economy of a country. From this the step is not long to the acceptance of such changes in order to avoid inconveniences that are not unendurable but are in reality unnecessary sacrifices. We shall then have reached a system which grants to each country the right to establish what it regards as fair parities.

It is a significant fact that even the Expert Committee appointed by the International Chamber of Commerce, a body with a conservative outlook in these matters, has found it advisable to formulate its monetary program on the same lines. A joint declaration on monetary policy by the leading world powers should, in the committee's opinion, cover the following points:

a) The avoidance of currency depreciation as an instrument of international trade competition;
b) The preservation and extension of the existing stability of rates except as necessitated by adjustments to fair parities;
c) The elimination of seasonal variations in the value of currencies;
d) Recognition of the desirability of a transition to a more permanent regime without undue delay.[1]

Although the demand for final stabilization has been included in the last point, attention has primarily been directed to curing the most obvious ills of the present system.

A monetary system of this type can naturally be thought of as based on varying degrees of international co-operation. I have elsewhere indicated the contents of an international agreement which would leave some room for national monetary policies within the framework of a system of gold currencies.[2] A younger Swedish economist, now occupying a prominent position in the financial administration of Sweden, has in his report to the abovementioned committee suggested a provisional stabilization on the basis of present currency groupings.[3] The object of the present paper is to show that good results can also be achieved on the basis principally of *free currencies*, provided that they are rationally managed in each country.

The latter question is of practical importance, because the situation arising through the dissolution of the gold bloc has apparently brought us closer to a system of free currencies.[4] In the present unsettled state of affairs it seems most reasonable not to expect too much from international co-operation and to base one's plans mainly on the egoistic interests of each country, i.e., on a monetary policy furthering the well-being of its inhabitants.

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[1] Joint Committee, Carnegie Endowment and International Chamber of Commerce, *The Improvement of Commercial Relations between Nations and the Problems of Monetary Stabilization*, Paris, 1936, p. 416.

[2] E. Lindahl, "Zur Frage eines internationalen Systems der Goldwährungen," in *Weltwirtschaftliches Archiv*, 1933, pp. 460 ff.

[3] D. Hammarskjöld, "Note on a desintegrated, provisional monetary standard as a basis of stabilization," *op. cit.*, p. 384 ff.

The import of a rational regulation of free currencies can be expressed in many ways. One point should, however, be especially stressed in this connection: a definitive aim for the policy should be declared and then consistently carried out. This is essential if the public is to be able to judge the future external and internal value of the currency. If this principle is followed the task of each central bank will be made easier, since its policy will be supported by private speculation.

It is worthy of notice that this principle up to the present has seldom been applied in practice. Sweden is perhaps the only country that has attracted attention through such a declaration. England and the United States have preferred to feel their way without allowing themselves to be bound by any fixed principles. The explanation of this is that their monetary systems and the methods of their management are still developing. The British problem is especially intricate in view of the imperial considerations that are involved. It is, however, to be hoped that riper experience will bring with it a higher degree of clarity regarding the leading objectives of monetary policy.

In comparison with the fact that such principles are laid down and carried out, their actual contents are of secondary importance. Nor is it necessary that these contents be the same in different countries. If the formulation of the objectives is connected with series of price indices, either average retail prices may be used, as in Sweden, or the average of certain wholesale prices (e.g., of goods entering into international trade or of internal products). It can also be debated whether the price level in the long run shall remain unchanged or shall vary in inverse proportion to productivity. These questions, however, do not concern us here.

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[4] Cf. the interesting exposé given in the *Midland Bank Monthly Review*, October-November, 1936: "Is the World nearer the Gold Standard?"

Our present question concerns the implications of the program for the regulation of the rates of exchange. We shall find that most of the points covered by the above-cited declaration of the Expert Committee will recur here.

1. Each country should strive to attain an exchange position which enables it to maintain the equilibrium of its balance of payments in a manner consistent with the established program.

The experiences of the last few years have given rise to an apprehension that such a type of exchange regulation, unfettered by international agreements, might cause a tendency for each country to bring about an undervaluation of its currency. These fears are, however, in large part unfounded.

It is true that during a depression each country is tempted to bring about internal recovery through depreciation of its currency. But in this case the other countries can retaliate through analogous measures, so that the *status quo* is, on the whole, maintained. Looking back on the development which commenced with the suspension of the gold standard by England in 1931, one accordingly finds that the greatest mistake was then made by the gold bloc countries. The mistake was that the fall of sterling was not confined to the relatively small percentage (perhaps 10 or 15 per cent) justified in view of its previous overvaluation. At that time the size of the reserves of the gold bloc would have made this a relatively easy task which might have been carried out even without depreciating the gold currencies.

Also in the long run it is now less advantageous than formerly for a country to attempt to attain an artificially low valuation of its currency. In the first place there soon arises the problem of where the surplus of foreign assets acquired through the active position of the balance of trade shall be invested. The choice lies between gold, deposits in foreign banks, or other foreign investments. The first two types are desirable only in so far as they are required for the maintenance of the country's liquidity and the regulation of the rates of exchange. Excess reserves only serve to increase interest charges. The point is soon reached when a country no longer regards an undervaluation of its currency as advantageous. This is, for instance, now the case with Sweden. Second, the undervaluation of some currencies implies the overvaluation of others. And the latter, as experience shows, will necessarily result in trade restrictions. For the countries in question such measures form the easiest means of counteracting the threatening passivity of the balance of trade. Since these restrictions react unfavorably on the countries with depreciated currencies, this fact should tend to reduce the attractiveness of any undue lowering of the external value of a currency.

2. After a certain equilibrium has been attained in this way, the next problem will be to prevent unnecessary changes in exchange rates while at the same time allowing such alterations as are necessary to preserve free international intercourse with regard to goods and capital.

There are two methods of bringing this about. A country may either maintain fixed parities for relatively long periods—parities which, when necessary, may be altered at one stroke to a new position also fairly permanent; or else small successive changes from day to day may be made so that the exchange rates at every moment will occupy a position that does not lead to expectations of future alterations in any particular direction.

It would seem that the first principle is more easily followed by small countries in general. As a rule a small country can tie its currency to that of some larger country of essential importance for its foreign trade. For the larger countries that occupy such a central position it should be most advantageous to apply the latter principle, and regulate exchange rates only with a view to avoiding unnecessary fluctuations, so long as no stabilization agreements are in force. In this way one arrives at the creation of currency blocs within which the rates of exchange are kept comparatively stable, often quite fixed for long periods, but between which the rates are more free and allowed to find their natural levels. This is the solution of the problem to which the logic of events has driven us during the last years. There are therefore strong reasons in favor of Dr. Hammarskjöld's view mentioned above, that this system should be the point of departure for all efforts to rationalize the present monetary system.

3. For the proper functioning of the system here outlined it is necessary that the central banks have adequate reserves in gold and foreign exchange that may be used for the regulation of the exchange rates, and also that they support each other by granting credits when necessary.

Naturally, the smaller countries should secure reserves large enough to enable them to control the exchange position. These reserves may be invested in gold as long as this metal retains its monetary importance, in the currencies of the larger countries, and principally in the currency to which their own systems are tied. The Scandinavian countries therefore invest most of their foreign holdings in London; countries affiliated with the United States, in New York, and so on. In certain cases, however, this is not sufficient, and temporary credit transactions are required in order to prevent involuntary depreciation. Transactions of this kind would be facilitated by an international credit organization which perhaps should be connected with the B.I.S. in Basel. Therefore we have here encountered a point where international co-operation is needed also for a satisfactory control of free currencies.

The countries holding a central position in the currency blocs have greater difficulties in investing their reserves. If they do not invest in gold, their investments must be placed outside the bloc. England can therefore hold deposits in New York and the United States can hold deposits in London, but these holdings neutralize each other to a certain extent. If London should find it necessary to draw on its reserves in New York, this can be done only as long as New York does not draw on its London reserves simultaneously. This is another point where agreement between the various countries is required.

If even after the greater number of currencies have taken a freer position with regard to gold, the central banks retain their belief in the value of gold as an international means of payments, the situation will be somewhat relieved. The leading central banks can then invest in gold the greater part of their reserves (which must be regarded as the reserves of the entire bloc in relation to other blocs) and thus become more independent of one another. But even in this case a certain degree of international understanding must be presupposed. For the value of gold depends almost wholly upon the willingness of the central banks themselves to accept it. And this in turn assumes that they depend on each other's willingness in this respect. The various countries are now cautious with regard to tying their currencies to gold, and the problem of the value and monetary importance of gold has consequently changed its character. The great financial interests connected with the large gold holdings of the central banks, and with the capital invested in the production of gold, can perhaps be regarded as strong enough to sustain the artificial increase in the value of gold that follows upon its monetary use, but the possibility of future surprises in this field are not altogether eliminated.

Considering the consequences of the system outlined here for international trade and capital movements, many of the present disadvantages could be remedied. The present restrictions on international intercourse could be entirely removed. The exchange situation would certainly, on the whole, become fairly stable, and the risk connected with alterations of the rates could be reduced through forward transactions. It is, however, difficult to decide whether the revival brought about by these steps would reach the prewar standard. One should keep in mind also that political uncertainty has greatly increased the risks in the international field.

EMPLOYMENT STABILIZATION AND PRICE STABILIZATION

By BERTIL OHLIN

IN THIS paper the advisability of a policy of stabilization of the general price level—one of the many eminently practical and important problems in which Professor Irving Fisher has made pioneering contributions—will be discussed.

The assumption underlying the analysis is that, in the absence of some special reason for a different attitude, there is general agreement on the desirability of having as large a volume of output of goods and services as possible. It goes without saying that this refers not only to a period of time in the immediate future but to a future period of considerable length. Hence the idea of maximizing output suffers from a certain lack of precision. It is possible that a gain in output this year might be obtained at the expense of a greater reduction in output some years hereafter. Furthermore, future incomes will depend on present savings, but there is no criterion which will enable us to say how much of such savings are "desirable." For the purposes of the present paper, however, these difficulties are not important. We can assume the disposition to save to be independent of the measures to be discussed below. Furthermore, it is probable that a policy which leads to a large volume of production and of national income this year does not tend to reduce but rather to increase the income of future years. I therefore make the assumption that—other things being equal—a greater volume of national income during any one period is preferred to a smaller volume.

This is not quite the same as saying that employment of all the productive resources should be our aim. Many natural resources and old capital equipment can add nothing to output. On the contrary, their utilization would reduce it. Besides, a 100 per cent employment of labor is impracticable. A system which prevented any change that caused temporary unemployment would make the volume of output smaller than a system which is content to permit a certain amount of "frictional" unemployment. Still more important, perhaps, is the fact that the volume of output and income depends not only on the *quantity of employment* of the productive agents but also on the *way* in which they are used. There are more and less productive uses of these agents in the sense that they contribute in a greater or less degree to the volume of output as measured by an ordinary index of production. If labor is used in the most economical manner, then the poor natural resources and the old equipment will not be used. Hence one can say that the task is to get labor fully employed—except for frictional unemployment—and to use it in the most economical channels.

For the sake of analysis it may be permissible to separate the question of the *quantity* of employment from that concerning the *kind* of employment. The present paper is confined exclusively to the former of these two problems. This must not, however, be understood to indicate that the writer considers the other one of much less importance. There is no evidence or indication in the economic history of the last hundred years that the waste from incomplete employment has been greater than have been the losses from uneconomical lines of economic activity. Nor does it seem probable that the unemployment in the world today—to the extent that it exceeds a frictional unemployment which for many reasons is greater than ten years ago—means a greater loss than that which is due to foolish commercial policy.

However, even the problem of how to obtain and maintain full employment in the sense indicated above is too large to be analyzed here. It covers the whole question of the elimination of business fluctuations and of remedies for structural maladjustments. I shall limit the following considerations to *the relation between full employment and the stability of the general commodity price level.*

Experience demonstrates that full employment is not compatible with movements in wholesale prices of the kind which characterized the period 1929-1932. Neither does it seem possible to have violent price increases like those of the war years without some reactions which prevent full employment. Can any general observations be made concerning the type of price movements that are compatible with the maintenance of a state of relatively full employment?

To throw some light on this question one may start from the well-known fact that fluctuations in employment are intimately connected with fluctuations in the volume of real investment in capital goods, durable consumers' goods, and commodity stocks. If the volume of investment could be maintained at a certain level, the output of non-durable consumption goods would not fluctuate much either. Thus, the total volume of output could be kept at the level compatible with full employment and technical progress. In brief, therefore, *control of employment seems to presuppose control of the volume of real investment.*

It would not be correct, however, to assume that stability in the economic system, and thus in the quantity of employment, could be obtained if the volume of investment were kept constant. The investment must stand in some relation to the willingness of the people to save, a fact stressed by Wicksell and more recently by Keynes. In what follows I propose therefore to discuss under what conditions, in respect of the price level, the volume of investment (1) can be prevented from fluctuating violently, and (2) can be made to adapt itself to the willingness of people to save.

Consider first private investment, of which the larger part is professional. The rest consists of purchases of durable consumers' goods by those enjoying their services.

Professional investment depends on profit expectations. Investment in such durable consumers' goods as motor cars depends on income expectations. If the professional investment is maintained at a relatively even level, it is probable that purchases of both durable consumers' goods and of nondurable consumers' goods will fluctuate only mildly. Hence, *the central task is to control the volume of professional investment.* What relation does it bear to changes in price levels?

In order that a volume of production which permits full employment shall be maintained, it is necessary that the profits earned and expected in that state shall induce people to decide upon an investment volume which is compatible therewith. If larger profits are expected, the investment will also be too large, and vice versa in the case of more pessimistic expectations. The profit expectations which govern professional investment depend on the relation between expected costs and expected revenues from new investment. These expectations for future periods are much influenced by the actual relation between cost prices and sales prices today. It is therefore necessary to prevent costs and sales prices from getting out of balance and making for abnormally large or low profits and profit expectations.

Let us look at *costs.* They can be divided in three classes, namely wage payments, interest and amortization payments ("debt costs"), and purchases of materials. Two things should here be observed. It is the relation of the prices of finished goods to wage and debt costs which determines the height of profits *for society as a whole.* For while high prices of materials can reduce the profits of one industry, they make the profits of the material-producing industries all the higher. Secondly, the debt contracts that influence future profits are chiefly long-term contracts, which makes the debt costs relatively stable over a period of several years. Hence it is fluctuations in the relations between wage payments and revenues from sales that dominate the variations in total profits.[1]

Turn now to the *revenues*. As the profits which chiefly affect private investment are those obtained in the three fields of production (not distribution) of commodities and certain services, transportation activity, and the supply of houses and apartments, the sales prices which have to be particularly considered in the analysis of revenues are wholesale prices of finished commodities, retail prices of such services as power, transportation charges and house rents. For the sake of brevity, let us call these prices "investment revenue prices." Revenues, of course, depend not only on prices but also on the volume of sales.

To the extent that profit expectations are based on actual profits in the last period, the condition for the maintenance of a "full employment investment" is that the revenues from sales in a state of full employment—i.e., full employment quantities multiplied by existing investment revenue prices—shall bear a certain "normal" relation to total costs. This would be impossible if the relation between wage rates and these prices fluctuated in a way not offset by changes in technique. It cannot be objected that the *quantity* of output, and not merely wage rates and sales prices, must be considered. For in a state of full employment output cannot grow except as a result of technical changes. And if output falls, then the desired full employment is no longer maintained.

The conclusion is, therefore, that only if changes in the relation between wage rates, on the one hand, and investment revenue prices, on the other hand, can be kept rather stable, will profits and, thus probably profit expectations, also be relatively stable, leading to stability in the volume of investment. Concerning the rate of interest see below.

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[1] The influence of changes in the *distribution* of profits between different industries and firms on profit expectations and investment cannot be considered here.

This reasoning, however, overlooks the fact that investment —both new investment and reinvestment—depends more on *marginal* profit expectations than on expectations concerning *total* profits. A manufacturing firm may expect large profits from some additional investment, even if for some reason or other the total profit earned is and is expected to remain small. The profitability of this additional investment is dependent upon the expected revenue—i.e., the above-mentioned prices and expected changes therein—and the expected costs. The latter include wages, prices of materials, and the rate at which capital can be borrowed. For society as a whole the profits and profit expectations will therefore be governed by the actual and expected relation between wage rates and interest rates, on the one hand, and wholesale prices, transportation charges, and house rents, on the other.

However, total profits are not without indirect influence. Their dimensions influence expectations concerning marginal profits. And it is the total profit of a firm which governs its credit worthiness and ability to borrow, a fact of importance for the volume of new investment.

The central conclusion is therefore that, given a certain interest level, the maintenance of a "full employment volume of new investment" requires a certain relation between expected wage costs and expected investment revenue prices, i.e., wholesale prices of finished goods, retail prices of certain services, transportation charges and house rents.

From the point of view of monetary policy—perhaps official economic policy in general—the movement of wage rates can be regarded as being to a great extent determined by outside forces. If, therefore, the movement of wage rates is a given factor in the problem, *the maintenance of profit expectations and investment* *assumes that the investment revenue prices adapt themselves to the wage changes.* For unless this is the case the *expected* relation between them will not long fulfill the conditions stated above. In a country where trade-unions force up wage rates by 5 per cent every year, a stabilization of the investment revenue prices —or of the general wholesale price level—would soon lead to a decline in investment and total output, as the annual increase in technical effectiveness cannot offset so large an increase in wage rates (piece rates). The only offsetting influence is a reduction in overhead charges as a result of growing output per man. The weekly earnings will of course grow in proportion to this rise in output but that does not concern us here. For the present problem it is *the cost aspect* of wages that is significant.

Can the problem of the maintenance of investment be solved irrespective of what kind of wage policy is pursued, as long as investment revenue prices adapt themselves? Probably not. For the relation of expectations to actual profits during periods of rapidly rising or falling prices is uncertain and not subject to control. Furthermore, it is practically impossible to obtain a smooth adjustment of, say, transportation charges and house rents, which are notoriously very "sticky." This also affects the revenue from *new* investment.

An adjustment of these revenue prices with sufficient speed is, of course, easier if wage rates change only slowly, say by a few per cent annually. The central problem is thus to attain some degree of stability in wage rates. With the present mentality of workers and trade-unions it is perhaps easiest to avoid disturbances and labor conflicts if wage rates are allowed to rise slowly.

To avoid misunderstanding the reader is reminded that the reasoning above concerns exclusively the *maintenance* of a state of relatively full employment which has already been reached, and not the question of how such a state is to be reached after a long period of serious depression. The relation of wage rates, prices, and profits during a period of rapidly expanding output is not so simple as indicated above.

The principal conclusion from the analysis so far is evidently that a stabilization of full employment assumes in the first place *a limitation in the fluctuations of the general wage level* (piece rates). Second, it assumes *an adaptability on the part of revenue prices.* Third—given a certain wage movement—it assumes that *variations in the interest level have a direct influence on profit expectations* and investment volumes. Hence to reach the goal—to maintain revenue prices, wage rates, and interest rates in such a relation to one another as to guarantee sufficient investment—changes in interest levels are perhaps the most direct mean. But there is no reason why the whole of economic policy—taxation, subsides, tariffs, and so on—should not, to some extent, be used to influence revenues and expectations and thus to supplement interest policy. A small country like Sweden may find it advantageous, if the 1937 boom continues, to raise the external value of its currency in order to prevent the discrepancy between wholesale prices and wage rates from going up too much.

It goes without saying that it is unsatisfactory to consider only the general wage level, the general interest level, and the like. The relation between different types of wages is often highly important. For example, wages in the investment trades like iron and steel and building have a more direct bearing on the volume of investment than other wages. Hence if the former wages are raised more than other wages, the result may be a decline in investment which would not have come about if wages had been raised all round. In the latter case, revenue prices and expectations concerning them would have behaved differently.[2] Similarly, the relation between different rates of interest is rele-

[2] The continuation of the American economic recovery up to a state of full employment seems to depend on (1) a limitation of the rise of costs in investment industries relative to costs in other industries and (2) an increase in the supply of skilled labor.

vant—export prices of nonfinished goods are important "investment revenue prices" in small countries. To go further into these questions is, however, impossible here.

So far only *private* investment has been touched upon. Because *public* investment is not governed by the same profit considerations, it can be varied so as to offset more or less those fluctuations in private investments which are proving impossible to avoid. Thereby variations in the total volume of investment are kept down both directly and indirectly, as the tendency for private investment to fluctuate is weakened when any such fluctuation is to a considerable extent offset by an opposite change in public investment.

It is time now to consider the fact, pointed out in the beginning of this paper, that stability of employment and of economic life in general does not assume a constant quantity of investment but a quantity which varies with the willingness of people to save. Assume, for instance, that when full employment prevails private individuals and institutions are willing to save 15 per cent of expected income and that the volume of investment going on is equal to 15 per cent of the national income. Unexpected incomes and savings for certain individuals and institutions and unexpected losses for others are small. Now, assume that the willingness to save is reduced to a level corresponding to 10 per cent of the expected income. In other words, consumption purchases are raised from 85 to 90 per cent of the expected income. If the investment demand were not reduced, the sum total of purchases —other things being equal—would rise and prices would start going up, lifting profit expectations and the volume of investment and thereby calling forth a process of an inflationary type. Similarly, in the case of an increased willingness to save, a failure of investment to grow correspondingly would start a process of a deflationary type. Neither of these processes could be compatible with full employment in the long run.

Unfortunately, the statistical evidence concerning fluctuations in the willingness to save is exceedingly slight. How then is one to know when the volume of investment is to be varied and how much? Of course, indirect evidence must be used. Should the value of output rise more or less than an amount corresponding to the change in quantity of labor, effectiveness of production, and changes in wages, then a "profit maladjustment" is clearly developing. Another sign would be a reduction or rise in unemployment which cannot be explained as frictional. Considerable changes in stock prices also indicate that profit expectations have become more or less optimistic, at least if these changes exceed the simultaneous and expected variations in the cost of capital instruments. For under such conditions it will appear profitable to vary the volume of investment, and unless conditions on the labor market indicate that this will help to offset a tendency towards more or less than full employment, the result will be a movement of the economic system away from a position of full employment.

In the spring of 1937 the boom in some European countries seemed to be approaching the stage where a brake should be applied to the growing volume of investment. There is ample evidence that this volume exceeds the quantity that prevailed in the nineteen twenties, and there is no indication that the willingness to save has grown correspondingly. Furthermore, the prices of a number of commodities which are used for investment purposes seem to be reaching a level out of proportion to their costs of production. A lack of skilled labor is another characteristic of the situation, indicating that the remaining unemployment in the unskilled lines is largely of the "frictional" type. The prices of many stocks are far above the "reproduction cost" of the factories and the sales organizations owned by these companies.

It should be noted that this diagnosis and the conclusion concerning the advisability of applying checks is not built on the fact that wholesale prices have been moving upwards in the last twelve months. So have wage rates. To the extent that price movements reflect changes in wage rates or tend to restore a balance between revenues and costs, enabling producers to reap and expect sufficient profits to make it worth their while to maintain a certain volume of investment, to that extent the price movements are natural and desirable from the point of view of the maintenance of employment. Thus a simple program for the stabilization of the price level—whether wholesale or retail or other prices are chosen—is not acceptable. The stabilization of employment at the desired level assumes a policy which is primarily directed to *preventing maladjustments in the sphere of investment activity*. No simple formula seems possible which can tell when such maladjustments are developing. But a careful grouping of all available statistical material so as to make it reveal as far as possible the tendencies in the field of real investment activity should give some lead concerning what kind of policy is needed to preserve a happy state of full employment. It is unfortunately probable that no one country alone will be able, in a world of fluctuations, to succeed fully in this task. But it is worth trying. And some day international collaboration will be possible.

INDIA

THE ABSORPTION OF GOLD: A STUDY IN MONETARY POLICY

By G. FINDLAY SHIRRAS

IT IS OF importance to examine some of the lessons of monetary policy in regard to the absorption of gold in recent years. The question of gold since the departure of many countries from the gold standard and the world scramble for the metal has been of special importance. In times of financial and economic uncertainty gold is increasingly sought for and it can be said to be the only commodity which is readily accepted in any quantity the world over. The rise in the price of gold since 1931 and the resulting increase in production are of special importance from the viewpoint of the standard of value and the level of commodity prices as measured by that standard. The production of gold has increased 47 per cent as compared with that of the year 1930 and 37 per cent as compared with the prewar year of 1913. We are again experiencing a general rise in prices such as occurred after the Californian and Australian gold discoveries in the middle of the last century and again at the end of the century after the development of the South African mines. If gold continues to be used, as in the past, as a means of international payments and as a basis for credit issues, there will be a prolonged and considerable rise in the general price level. Monetary gold stocks, I believe, will be sufficiently large to meet all requirements. The very general increase in gold production, the outflow of gold from nonmonetary stocks in India, the markedly more efficient organizations of banking, and the result of the revaluation of gold—all point to the conclusion that the gold foundation for the world's credit structure is far greater than before. Indeed, the supply is so large as to suggest a possible danger of worldwide inflation. In this paper it is therefore proposed to deal with some of the problems of policy in regard to the absorption of gold.

It must not be thought that monetary stability will provide a basis for all the necessary readjustments in the wider field of finance and trading relations, relations which have been so distorted during and since the War. Changes of a monetary character, such as the variations in gold stocks and in exchange parities, are only factors in the problem and are not the primary causes of the failure of the international gold standard. Before the War the gold standard worked on the whole well because there was financial and trading equilibrium between the important countries of the world and the gold standard checked the departures from equilibrium before they became extreme. In the postwar period, however, the departure from equilibrium was so extreme that adjustments by gold movements were not possible. Any international monetary system is only a means of maintaining economic equilibrium; it cannot itself create economic equilibrium. This equilibrium too must be internal as well as external. In the recent past, it is true, we have made considerable progress towards equilibrium. One-way payments, such as reparations and war debts have been discontinued. Capital has been diverted into the production of goods and services for home use, debt has been liquidated and interest charges have been reduced. We are nearer to monetary stabilization than we have been since the breakdown of the gold standard.

Another point of importance is that so long as even one country is on the gold standard, i.e., ready to buy or sell gold at a fixed price, there is bound to be an unlimited demand for gold at that price. This explains why when more and more countries went off gold the price of gold continued to rise until today a large proportion, nearly three-fourths of the world's monetary stock held in central banks and treasuries, is in three countries —the United States, France, and England. According to the Federal Reserve Bulletin for January, 1937, 50 per cent in October, 1936, was in the United States, 15 per cent in France and 9 per cent in the United Kingdom, in central banks and treasuries. This excludes gold hoarded or held outside central banks and the treasuries of the various countries. Countries that have gone off the gold standard have not gone off the gold standard for all time. They have done so merely to keep gold. Adverse balances of trade and capital movements were threatening to deplete their stock of gold. As a result the price of gold in relation to commodities rose. Before the War there would have been a deflationary policy—a lowering of prices of commodities in relation to gold which meant the same thing as going off gold to keep gold. Gold today is not merely the basis of credit and a means of settling international payments but it is made to serve to an unusual degree as a store of wealth.

I

India's absorption of gold in recent years has given the student of currency several lessons which are of permanent value. Before examining these it is necessary very briefly to sketch the facts. From time immemorial India has been the sink of the precious metals. She has absorbed gold for social and quasi-religious purposes. I have referred to the hoards of gold in temples and in Indian States in my *Science of Public Finance*[1] and in *The Economic Journal*[2] and it is unnecessary to repeat the examples quoted therein. Gold is required for marriages, and it is the usual method of providing for a rainy day in Hindu families. India has imported in the present century 55,400,000 fine ounces of gold valued, at the present price, at Rs 5,230,000,000 or $1,927,000,000. She has also imported silver in the same period to the extent of 2,211,800,000 fine ounces

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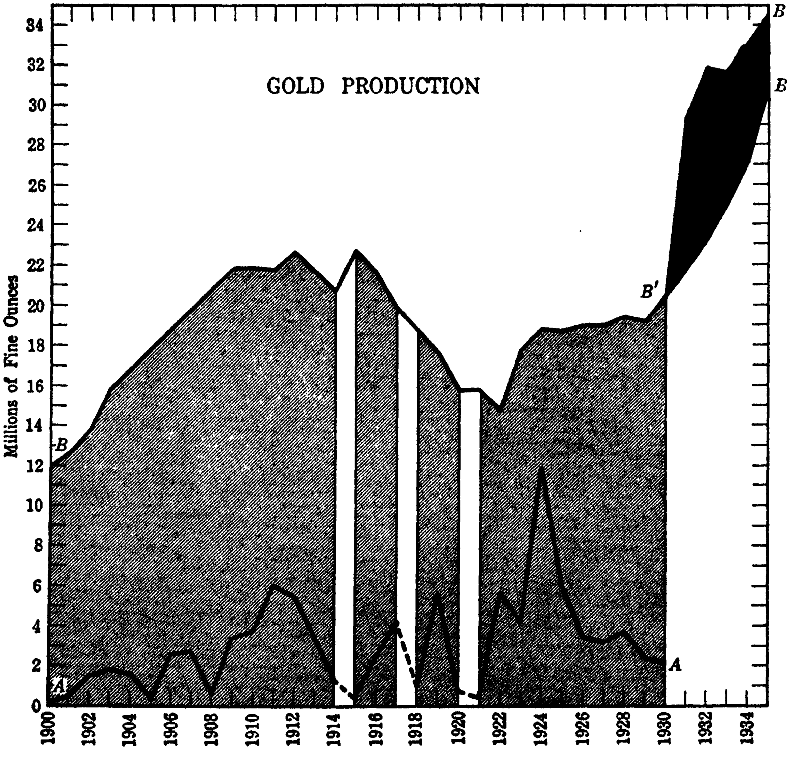
[1] *Science of Public Finance*, II, 1936, 782-784.

[2] *The Economic Journal*, 1929, p. 631.



The world production of gold and India's export of non-monetary stocks of gold, the equivalent of an addition to the world's mine production.

Note: B-B = world mine production.

B'-B' = world mine production plus India's net exports.

A-A = net imports of gold into India.

There were small exports of gold in the years 1915-16, 1918-19, and 1921-22 (200,000; 1,000,000; and 300,000 fine ounces respectively). Hence the dotted lines in these years.

valued at the present price at Rs 2,830,000,000 or $1,001,000,000. India today has a store of gold amounting, in my view, to no less than 107,100,000 fine ounces valued at the present price at Rs 10,220,000,000 or $3,726,000,000. India's share of the world's gold is thus approximately 9 per cent. Nearly nine-tenths of the world's gold has been mined since 1850 and in the same period India has taken 85 per cent of her present stock of gold or over 91,000,000 fine ounces. The detailed figures are given in the following table:

THE NET IMPORTS OF GOLD INTO INDIA IN RELATION TO THE WORLD PRODUCTION OF GOLD

1 Year or Years	2 Net imports	3 Percentage of Aggregate (Col. 2)	4 World Production	5 Percentage of Aggregate (Col. 4)	6 Percentage of Col. 2 to Col. 4
	(in millions of fine ounces)				
Up to 1835–36	14.0	13.1	152.8	12.8	10.4
1835–36 to 1839–40	0.4	0.4.			
1840–41 to 1849–50	1.5	1.4			
1850–51 to 1859–60	5.5	5.1	64.5	5.4	8.5
1860–61 to 1869–70	14.8	13.8	61.1	5.1	24.2
1870–71 to 1879–80	3.4	3.2	54.6	4.6	6.2
1880–81 to 1889–90	7.5	7.0	52.0	4.4	14.4
1890–91 to 1899–00	4.6	4.3	102.0	8.5	4.5
1900–01 to 1909–10	15.0	14.0	182.9	15.4	8.2
1910–11 to 1919–20	31.4	29.3	206.0	17.3	15.2
1920–21 to 1929–30	41.7	39.0	165.4*	13.9	25.2
1930–31	2.2	2.0	20.8	1.7	10.6
1931–32	−7.6	−7.1	22.2	1.9	−34.2
1932–33	−8.3	−7.8	23.9	2.0	−34.7
1933–34	−6.7	−6.3	25.3	2.1	−26.5
1934–35	−5.7	−5.3	27.6	2.3	−20.7
1935–36	−4.0	−3.7	30.5	2.6	−13.0
April to December 1936	−2.6	−2.4			
Total	107.1	100.0	1,191.6	100.0	9.0

* Nine years only.

NOTE: Minus means net exports.

A few further comments on the table above are necessary. The world's production of 1,191,600,000 fine ounces of gold, if converted into tons, comes to 36,473 tons or 69,237 cubic feet. All the gold therefore which has been mined since the dawn of history could be contained in a ship like the "Queen Mary." Another comment is in regard to the exports since India slipped off the gold standard. The price of gold has risen 67 per cent since September, 1931. The exports in this period, being non-monetary gold, should be added to the mined production data in order to arrive at the total available supply of gold in each year. This is clearly brought out in the following table.

THE WORLD'S SUPPLY OF GOLD 1931–1935

Year	World Production	India's Net Exports	Total Gold Available	World Supply (Col. 4) Index Numbers	
	(in millions of fine ounces)			1913=100	1930 =100
1931	22.2	7.6	29.8	134	143
1932	23.9	8.3	32.2	145	155
1933	25.3	6.7	32.0	144	154
1934	27.6	5.7	33.3	150	160
1935	30.5	4.0	34.5	155	166

The diagram above illustrates at a glance the general results of the net exports of gold in relation to world's production. These total exports amount to 34,894,615 fine ounces. This is a little less than the equivalent of the net imports of gold in the eight years preceding the crisis or 1923-1924 to 1930-1931 (37,540,000 fine ounces). These exports, if valued at their present price, would amount to Rs 2,937,000,000 or $1,089,100,000. This export is the equivalent of one and a fifth times that of the world's mine production in 1935, the production of gold being in recent years as follows, in fine ounces:

1913	22,200,000	1927	19,400,000
1915	22,800,000	1928	19,700,000
1926	19,300,000	1929	19,500,000

1930	20,800,000	1933	25,300,000
1931	22,200,000	1934	27,600,000
1932	23,900,000	1935	30,500,000

Last, the distribution of the world's production is of special interest in regard to the relative absorption of gold in the East as compared with monetary stocks. This distribution of world's production up to the year 1935 is roughly as follows:

THE DISTRIBUTION OF GOLD

(In millions of fine ounces)

	1935	PERCENTAGES
In central banks and treasuries.	647.7	54.4
In exchange equalization funds, Western hoards, etc.	86.6	7.2
World's stock of monetary gold.	734.3	61.6
Eastern hoards (estimated).	457.3	38.4
Total world production till 1935.	1,191.6	100.0

The exports of gold from India were almost entirely from nonmonetary sources. The possessors of this gold who had bought it at Rs 21/-per tola sold it for as high a price as Rs 35/-per tola and thus converted a rather unproductive asset at an unexpectedly high price. These exports were altogether different from an outflow of gold from the reserves of a central bank or from a treasury. The outflow of gold generally arises from a weakening exchange, but the exports of India's gold, on the other hand, strengthened exchange. There was no contraction of the currency such as takes place under the operations of the traditional gold standard. On the contrary, there was from 1930 to 1933 a continuous increase in the circulation of rupees. The circulation in the prewar year, in 1919, and in subsequent years was as follows, in millions:

Rupees in Circulation

1913	1,910	1924	2,350	1930	2,760
1919	2,300	1925	2,360	1931	2,970
1920	2,600	1926	2,870	1932	2,990
1921	2,350	1927	3,010	1933	3,220
1922	2,490	1928	2,930	1934	3,100
1923	2,480	1929	3,080	1935	2,780

The rupee and the half rupee are, of course, legal tender to any amount, and the circulation is arrived at from the following formula described in Appendix II of my *Indian Finance and Banking*.[3] The circulation in the year 1912 (C_{12}) would be equal to

$$\frac{\text{Coinage of the year 1910} \times 100}{\text{Percentage of the coinage of 1910 in 1912}}(1-r)^2$$

$$\text{Or } \frac{I_{10} \times 100}{{}_{10}S_{12}}(1-r)^2$$

$$\text{Again } C_{12} \; \frac{I_9 \times 100}{{}_{9}S_{12}}(1-r)^3$$

$$= \frac{I_8 \times 100}{{}_{8}S_{12}}(1-r)^4$$

$$= \frac{I_7 \times 100}{{}_{7}S_{12}}(1-r)^5$$

$$= \frac{I_6 \times 100}{{}_{6}S_{12}}(1-r)^6$$

where I represents the coinages of the respective years, S the percentages of the particular coinages in the census of 1912, and r the average annual rate of wastage assumed constant for the period. The geometric mean of the five values of C_{12} is 182, i.e., 182 crores (one crore = ten millions) of rupees were in circulation in 1912. This agrees closely with the estimate which the Government Prices Enquiry Committee made for 1912, viz., 185 crores. The Controller of Currency in his Report for the year ending March 31, 1912, estimated the active rupee circulation at 180 crores. In view of the abnormal rates of wastage in 1917, 1918, and 1919, I have adopted another method, a ratio method, of estimating the circulation of any year when once the circulation of any "pegged" year has been obtained. This method avoids using any value of r in estimating the circulation of any other year when once the circulation of any year (1912) has been obtained. The census is based on the scrutiny of 10,000 rupees selected at random in the first week of May of each year at each treasury and currency office in India and the figures are published in the annual Report of the Controller of the Currency. As there are upwards of three hundred treasuries and seven currency offices, the amount of rupees under scrutiny each year is approximately one-third of a crore. I assume that (1) the percentages in the rupee census table are estimates of the percentages of the several years' issues to the total stock of rupees in circulation and (2) that the coinage of any year is completely put into circulation in the year in which the maximum percentage is attained. Wastage has to be allowed for. For accuracy the coinage or mintage of the five immediately preceding years has been taken, beginning with the coinage which attained the maximum percentage in the year in which the circulation is to be estimated. The coinage of these five years has been reduced to allow for the annual wastage. The geometric mean of the estimates obtained from each of the coinages will give a fairly accurate estimate of the active circulation for the year in question. The rate of wastage has been found by taking for a series of mintages the geometric mean of the ratios between the percentages in two successive years commencing with the year of maximum percentage, and by taking the arithmetic mean of all these geometric means. The rate of wastage has been found to be 0.0628.

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[3] *Indian Finance and Banking*, 1919, Chap. V, and Appendix II.

India's gold exports have not led to a contraction of the currency but to an expansion. In ordinary circumstances the discount rate would have been raised if the exports had been from monetary reserves, but in the case of the gold exports from India in the period under examination the exports have been to a large degree responsible for the lowering of the discount rate. The devaluation consequent on England's slipping off the gold standard in September, 1931, arrested the outflow of gold in that country, while in India devaluation was the cause of the outflow. The large increase in Bank deposits, postoffice cash certificates, and in the income of insurance companies during these years is due in no small measure to the export of gold. Thus gold exports filled the gap resulting from the fall in the value of India's primary products and helped to maintain not only our imports but also our balance of payments abroad. India takes her favorable balance of trade in normal times to a considerable extent in the form of imports of gold, and it is to be expected that since she hoards gold in prosperous years she cannot continue to do so in times of economic depression. In other words, the exports of gold have enabled India to continue importing merchandise on a scale which would otherwise have been impossible. It has enabled her to purchase imports and thereby to maintain consumption and increase her productive power by imports of capital goods, especially machinery. It has enabled her government to meet the home charges in London without much difficulty. Even during these critical years India maintained a favorable balance of merchandise. These are the more important lessons which these exports of gold from nonmonetary sources have taught us in these years.

II

I now turn to another aspect of gold absorption, the absorption of gold by Exchange Funds in such a way as not to increase the credit base. This insulation of the internal credit system from the effects of pressure in favor of or against sterling or dollars is a matter of great interest to all students of currency. A new instrument of monetary control has been effected in both the English and American systems by recent action. This is in complete contrast to the influx of foreign funds under the gold standard. It will be remembered that in April, 1932, England decided to create an Exchange Equalization Account which was a fund to prevent undue fluctuations in exchange rates. It was considered impossible for trade and industry to continue in a satisfactory way if the medium through which negotiations were conducted was constantly convulsed by financial earthquakes. The benefits of the existence of such an exchange fund were proved in the case of the gold standard reserve in the Indian currency system. Such a fund was founded as far back as December, 1900.[4] The composition of the British Exchange Fund was built around the old Dollar Exchange Account which gave a nucleus of £25,000,000, and in addition there were Treasury powers to borrow a sum at first not exceeding £150,000,000. In 1934 the United States created a fund similar to that of England, and other countries, notably France and Holland, established similar funds at the time of the devaluation in the autumn of 1936. The real function of such a fund is to buy and sell foreign currencies in such a way as to neutralize violent fluctuations in the rates of exchange. It has been found by experience that the internal credit system can be insulated from the effects of large imports of funds or the reverse. In short, a new and highly elastic form of gold standard has been born out of this procedure.

[4] Despatch from the Secretary of the State, No. 232 dated December 13, 1900, p. 126, Cd. 7070, 1913.

The British Exchange Fund was formed when foreign funds were coming to London so that on balance the account had to act as a seller of sterling and not as a buyer of sterling. This was just the reverse of the operation of the American Exchange Stabilization Fund. In 1933 the English Fund had to be increased by £200,000,000 in order to provide additional supplies of sterling and early in that year the Bank of England bought gold from the Account in order to relieve it of surplus gold and also to expand the internal credit base. In the middle of 1936 it bought gold to relieve the internal banking system. On December 15, 1936, the Bank again bought gold as there was an excessive amount of gold in the Equalization Account. On this occasion, however, it was considered undesirable to expand credit in the London money market, and a new procedure was introduced by which the fiduciary note issue of the Bank of England was reduced. This new compensating action is thus a second line to the Exchange Equalization Account. The Exchange Account can sell gold to the Bank of England and by taking over Treasury bills from the fiduciary note issue can put itself in funds in sterling. If the tide is the other way, i.e., if there is a repatriation of funds, the Exchange Account, should it require gold, can buy it back from the Bank and give in exchange Treasury bills to increase the fiduciary note issue. The introduction of this compensatory action, when necessary, is a step forward in the management of the international gold standard and can be done in various ways. It is in complete contrast to the effects of an influx of foreign funds under the gold standard. When gold came into the Bank of England under the gold standard it increased the basis of credit and also strengthened the cash position of the joint-stock banks. Imports of gold meant more credit, but if the gold is bought by the Exchange Equalization Account there is a tendency towards even greater stringency. As a general rule in English banking, deposits are ten times the amount of cash. "This tendency," a recent writer[5] has remarked with much truth, "becomes intensified if the foreign funds coming into the country are hoarded in the form of British currency. To see this, assume that the day after these funds are deposited in the British banks they are drawn out again in British currency. Then the banks lose their newly-gained deposits and also lose cash. They still retain, however, their new discounts and call short loans. The net result of the whole process is: deposits, unchanged; cash, reduced; discounts, higher; call and short loans, higher. This means a still greater reduction in their cash ratio. Meanwhile, the Bank of England has experienced an expansion in the note circulation, and as it has gained no fresh gold there is also a reduction in its reserve. The credit has been definitely narrowed."

Compensatory action was taken when there was considerable hoarding of British currency in the summer of 1936, and there were signs in the London money market of a developing stringency. The Equalization Account sold gold to the Bank of England and the net result was that part of the foreign gold went into the Bank and not in the Exchange Account. Gold coming into the country eased instead of restricted the credit position. It is interesting, on the other hand, to see how the Bank of England bought £65,000,000 of gold on December 15, 1936, the fiduciary note issue being reduced from £260,000,000 to £200,000,000. The object was, of course, to prevent the expansion in the basis of credit which would have been caused by this large purchase of gold by the Bank. It is understood that when the Bank bought £65,000,000 from the Exchange Equalization Account it gave in exchange £60,000,000 of Government securities and treasury bills of short-dated nature from the fiduciary note issue, and £5,000,000 were found in other ways. This £65,000,000 of gold was valued at the statutory rate of about 85s per fine ounce but when the Exchange Equalization Account sold the gold it had to debit a loss of £43,000,000 under section 5 of the Exchange Equalization Account Act, 1932, as the current market price was 141s 9d per fine ounce. The net result was that the Exchange Equalization Account acquired £65,000,000 of securities and parted with gold to the value of £108,000,000, the Fund contracting by a total of £43,000,000. These securities could, of course, be converted into sterling forthwith. The transaction was probably due to the fact that gold valued at approximately £40,000,000 had been imported from France, the transaction being done through the new French Exchange Fund and the British Exchange Equalization Account.

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[5] "The Development of Exchange Funds," by Norman Crump, Lloyds Bank Limited, *Monthly Review*, January, 1937.

Next with regard to the absorption of gold in the United States. It is a well-known fact that since 1934 gold has continued to pour into New York in a manner that has given rise to anxiety on the part of the officials of the American Treasury and the Board of Governors of the Federal Reserve System. The increase in holdings from 1934 to the present time may be seen from the following figures given in the official Federal Reserve Bulletin for January, 1937.

MONETARY GOLD STOCK OF THE AMERICAN TREASURY AND THE FEDERAL RESERVE SYSTEM

1934	(end of December)	8,238,000,000 dollars.
1935	(end of December)	10,125,000,000 dollars.
1936	(end of December)	11,258,000,000 dollars.

These gold imports in the last three years led to an unprecedented total of surplus funds in the banks, the existence of which carried with it permanent danger of inflation. In August, 1936, the Reserve Board raised the legal reserve requirements of the member banks by 50 per cent. This action reduced the excess reserves from $3,170,000,000 to $1,810,000,000. Nevertheless by December 1 the excess reserves again increased to

$2,210,000,000. On December 21 the Secretary of the Treasury announced, after conferring with the Board of Governors of the Federal Reserve System, that the Treasury "proposes whenever it is deemed advisable and in the public interest to do so, to take appropriate action with respect to net additional acquisitions or releases of gold by the Treasury Department. This will be accomplished by the sale of additional public-debt obligations, the proceeds of which will be used for the purchase of gold, and by the purchase or redemption of outstanding obligations in the case of movements in the reverse direction." On January 30, 1936, the Board of Governors took a further step towards the effective control of credit by increasing the reserve requirements of the member banks by 33⅓ per cent. Half the increase became effective on March 1 and the remaining half on May 1. This measure was designed to eliminate about $1,500,000,000 of excess reserves as a base for further credit expansion, but it still left an excess of $500,000,000. We are, however, interested in the method of sterlizing the gold as it enters, whether from imports or from new production. The Treasury, since December 21, 1936, has paid for gold with funds obtained by the sale of Treasury securities in the open market while hitherto it had paid for the gold with funds obtained by depositing gold certificates with the Federal reserve banks. In place of the method by which the Treasury paid Federal reserve funds into the market without any offsetting withdrawal, thus causing bank reserves to increase, the treasury pays Federal reserve funds into the markets and takes out an equivalent amount, leaving bank reserves unchanged. The purchased gold is thus set aside in an inactive account in the Treasury and in this way is kept out of the country's credit base. An upward movement of gold acquired through the sale of bills will similarly be offset by the purchase or redemption of United States' obligations in the market; thus the funds lost through the export of gold will be restored to it.

In other words, the volume of member bank reserves will to this extent neither increase nor decrease as the result of changes in the supply of gold. The new method of dealing with gold imports is similar in principle to that which has been followed by the British Exchange Equalization Account. Here again under this plan there is the apparent paradox that gold imports, instead of increasing excess reserves as in the past, will tend actually to decrease them to the extent that the new procedure permits an increase of bank deposits without correspondingly increasing bank reserves. It is always left to the Treasury, if money becomes unjustifiably tight because of the gold exports or otherwise, to draw upon part of its inactive gold to take up some of its outstanding securities and thus to put back funds into the market. It will be agreed that this procedure is in every way preferable to the system followed since the American Exchange Stabilization Fund was created in February, 1934, when it was officially formed by the devaluation of the dollar and the consequent increase in the value in dollars of the United States' stock of monetary gold. The Fund had gold to sell and no dollars, but it has been pressed to buy gold and to sell dollars which it did not possess. Since the gold flowed into the Exchange Fund it had to be resold to the reserve banks, for that was the only way in which the Fund could obtain dollars to pay for the gold offered it. This led to a progressive increase in the American credit base, especially in the expansion of member bank cash and excess reserves. It is to cure this that the procedure of December, 1936, has been introduced. The Fund will now absorb and assimilate the foreign gold brought to the United States by the influx of foreign money. It will be able to buy and retain gold and will no longer be compelled to pass it on to the reserve banks. And it therefore will be able to operate freely both as a buyer and seller of gold as in the case of the British Account and, as more than one writer has pointed out, to function properly for the first time since its creation. The result of the gold influx will be an expansion of member banks' government securities instead of an expansion of their cash. This offsetting by an increase in securities and not in cash when there is an influx of foreign funds will, as already noted, result in a reduction in excess reserves.

Enough has been said to show that through the development of exchange funds gold has been absorbed in such a way as not to affect the credit base. In short, an elastic form of an international gold standard has been invented. We have discovered by the development of the exchange funds how to insulate internal credit against the shocks due to the movement of foreign funds. This new and beautiful piece of financial machinery originally created merely for a temporary purpose is likely to become a permanent part of the mechanism of the future international gold standard.

CHINA

LESSONS OF CHINESE MONEY POLICY

By T. V. Soong

Until recently China was on a silver standard: for ages the standard of value and the levels of prices and incomes had been primarily measured in terms of units of silver. With the development of foreign trade China's internal economy became gradually linked to the outside world and more intimately concerned with external changes and conditions. The position which China then assumed under the international price system required, as with other countries, that changes in the Chinese price and income structure should be adjusted to changes in the world outside, i.e., that if world prices rose, Chinese prices should rise in sympathy. Failing such adjustment, corrective forces, in the form of silver movements, would automatically come into play. Because Chinese prices and incomes were expressed in terms of silver the relationship between Chinese prices and those in gold standard countries could only be determined when the former were expressed in terms of gold, i.e., when account was taken of the gold value of silver itself. Corresponding movements in Chinese and world prices were only called for if silver itself remained unchanged in value.

A rise in the price of silver, through the ensuing appreciation in the silver exchange which it caused, would tend to produce deflationary effects in China and to that extent remove the underlying necessity for Chinese prices to follow any rise in world commodity prices that might simultaneously have taken place. If the prices of silver and of other commodities changed together in the same direction and to the same extent, no adjustment in China or in the movement of silver became necessary. It was only when the price of silver got out of line with the general level of world commodities, i.e., when its purchasing power in terms of goods changed, that adjustments became necessary in China. The relative purchasing power of silver therefore indicated the necessity for adjustments in China and determined the corrective movements of specie. Just as under the gold standard, gold tends to move where it commands the highest value, i.e., where the prices of goods and services are lowest, so does silver move under a silver standard, i.e., in accordance with its purchasing power. It was thus not the movement in the price of silver itself which was of fundamental concern for China under the silver standard, but its movement in relation to the level of commodity prices.

As silver itself is only a commodity in the economy of gold standard countries, its price, apart from special factors, may normally be expected to follow the general trend of other commodity prices. In so far as this happened, i.e., its purchasing power remained stable, the compensating deflationary or inflationary effects of the associated appreciation or depreciation of silver insulated China from the necessity for making adjustments to world commodity price changes. It thus tends to be an essential difference between the gold and silver standards that, whereas under the gold standard, adjustments are made internally in the level of prices through movements of specie (just as they are inside a silver area), adjustments between the gold and silver areas are made outside the silver area by alterations in the exchange value of the silver currencies.

The measure of China's immunity from world price changes —either up or down—was the extent to which the price of silver followed that of other commodities. Although it is generally true that all commodities, in some degree, stand in competitive and complementary relationships to each other and that at any moment in time their prices are in a state of equilibrium so that a change in the price of one automatically alters the basis of equilibrium through changes in preference and cost, factors peculiar to silver as a commodity invalidate this general truth to a considerable extent. Apart from the recent appearance of offers of demonetized stocks, the supply of silver, because silver is largely a by-product from the extraction of base metals, is comparatively insensitive to price changes. Demand from the arts and industry is also relatively inelastic so that at any one moment the surplus supplies on offer by the gold-standard world have to be taken by the silver-using countries, allowance being made for absorption into hoards, and the gold-standard demand for token coinage.

The monetary demand of silver countries thus put these countries into the position of marginal buyers and enabled them very largely to determine the price of silver for all other purchasers. The price they fixed was such that at the equivalent value of their exchanges their balances of payments showed a surplus sufficient to absorb the excess supplies. That is, the price of silver tended to settle down at such a level *below* the general level of commodity prices that the consequent undervaluation of the silver exchange made all imports into China, with the exception of silver itself, more expensive in terms of Chinese currency, with the result that China took payment for her exports, not in imported goods, but in silver, to an amount approximating the disposable world silver supplies. These imports of silver (except in so far as they were converted into hoards or ornaments) led to an increase in the internal price level which became continuous as more surplus silver came on offer from the gold standard world, so that the whole process tended to repeat itself.

This, in general outline, was the basis on which the silver standard worked in China. For well over forty years the price level in China rose continually (regardless of the movement of world commodity prices) as a result of a steady tendency for the price of silver to remain below the general level of commodity prices. Over the same period, with only a few exceptions, China was a substantial importer of silver, and since the beginning of the present century alone has bought on balance over (Chinese) $1,000 millions. This continued fall in the silver exchange tended to alter the barter terms of trade to the disadvantage of China with the result that the increasing quantity of exports required in exchange for a smaller volume of imports tended towards depreciation of the value of Chinese labor.

Adjustments which are called for by changes in the internal level of prices and incomes due to purely domestic causes, such as currency and credit inflation or deflationary crises, are phenomena not peculiar to the silver standard, per se. But anything which tends to disturb the relationship between the gold price of silver and those of other commodities causes disequilibrium for a silver-using country and imposes the necessity for internal adjustments for causes outside its control. A sharp rise in the price of silver out of line with the movements of commodity prices would cause a marked appreciation of the Chinese currency and require in place of the customary steadily rising price level a measure of deflation of prices and costs in China so much beyond the possibility of speedy adjustment that severe internal depression would result and, in all probability, involve a forceful and painful correction through extensive exports of silver.

The truth of these fundamentals has been well illustrated by events in regard to China in the past few years. At the onset of the world depression in 1929 when world prices started to fall heavily the price of silver dropped in sympathy. The general tendency of the prices of basic commodities—of which silver is one—to outstrip the fall in the general level of wholesale prices was again in evidence, and accentuated the normal disparity determined by the balance of payments of the silver countries. China became isolated from the world depression and, because the rise in her internal price level together with the fall in world prices was less than the depreciation of her exchange, even enjoyed a moderate boom in domestic activity and external trade. In 1931, when sterling went off gold, the London price of silver rose more than the sterling price of wholesale commodities and caused the Chinese dollar to appreciate against currencies in the sterling area. Chinese prices did fall but they did not fall enough to bring about the required adjustment and for the first time for many years the balance of payments turned adverse and led to considerable exports of specie. Although China's balance of payments, about this time, was already showing signs of deterioration from the operation of purely economic factors, such as the unfavorable world development of the terms of trade between industrial and agricultural commodities (of which China is largely a producer) and the decline of remittances from Chinese emigrants, it nevertheless remains true that it was the abnormal and subsequent Government-fostered appreciation in silver which was, in the main, responsible for China's troubles. The departure of the United States dollar from gold in 1933 and a further depreciation of sterling accentuated China's difficulties in regaining equilibrium. At the time when the United States Silver Purchase Act came into force the Chinese economy was therefore already under abnormal strain.

The further tremendous artificial appreciation in the price of silver which then took place, far beyond the moderate rise in world commodity prices, subjected China to an additional and impossible deflationary pressure. Although it is true that the diffusion of deflationary forces tends to be slower in China than in other countries because of poor communications, the high proportion of local consumption and transactions in kind, and the comparative isolation which the widely used independent copper currency gives from movements of silver prices (in much the same way as silver does against gold), yet the ensuing deflation was very severely felt by the people in the interior. The enormous specie exports continued and the resulting contraction in the currency and credit base came near to bringing business to a standstill. The exchange rate lagged behind the rise in the theoretical bullion parity and offered ever-increasing margins of profit on silver exports. In order to check further losses of silver, the external value of the Chinese dollar was divorced from its internal value by the imposition of a duty on silver exports together with a variable equalization charge. This measure, while protecting China from the necessity for further deflation, could clearly be only a temporary expedient. The heavy wave of speculation which was let loose against the currency in the belief that sooner or later the dollar would have to be lowered to a more economic value, contributed towards the rapid widening of the disparity between the exchange and bullion value of the currency which was encouraging such tremendous outward smuggling of silver. The uncertain and precarious position of the currency undermined confidence and led to a widespread flight of capital. The gamble of the speculators looked so much like a certainty that, in spite of the heavy discount on the forward dollar which at one time ran up to the equivalent of over 30 per cent per annum, money was sucked out of the banking system into the exchange market and came near to starving industry of funds. The general landslide which had set in left the Government no other alternative on November 4, 1935, but to make complete the divorce of the Chinese dollar from silver. From that date silver has been replaced by notes of the three Government banks as sole legal tender and the exchange value of the dollar has been held at the level to which it had been allowed to fall on the eve of the currency change.

In China, and elsewhere, the change was met with foreboding. Grave doubts were raised about the ability of the Government to wean their people from their age-long association with full-value metallic money and to prevent the currency from hopeless depreciation when no longer linked to metal. The results of the past year have shown, as in other countries, how uncalled for and alarmist such views were, and have once more refuted the apprehension that devaluation, of necessity, ushers in inflation. The experience of China has shown that the important requirement is an assured stability of purchasing power of the monetary unit with respect to goods, whether the unit is of paper or of metal. Having seen that a paper dollar may be expected to buy the same volume of commodities over any period during which it is held, the people have become accustomed to accepting paper currency in place of metallic coin. It is also often not appreciated that, even before the currency change, the Chinese people were already becoming familiar with dealing in paper money. Much of the silver held in China was either in hoards or held by the banks as reserve against their notes or else circulated as subsidiary coins. There is no doubt that in spite of the many obstacles which had to be overcome, and the presence of many difficulties peculiar to China, the currency change has been successful. The Government was faced with problems arising from the existence of a medley of currencies consisting of silver and copper and a large variety of paper notes. The financial and administrative decentralization necessitated by the vast size of China which had led to the growth of many provincial systems, often functioning as semi-independent units with their own currency and financial arrangements, and the existence of foreign note-issuing authorities in extraterritorial parts of China not subject to Chinese law, complicated the task of the Government.

The legal tender paper currency has now been widely accepted throughout China and considerable progress has been made in replacing the other forms of paper money. The notes of the non-Government banks are being steadily withdrawn and with their departure many of the previous discrepancies in internal currency conditions are also disappearing. It has for a long time been characteristic of Chinese currency that widely differing rates of exchange have prevailed internally. The vast size of China; the differences in requirements and wealth formation in the various parts; and the crude and un-co-ordinated nature of the banking system made it inevitable that wide discrepancies in the demand and supply of funds should be seen throughout the country. The great bulk and weight of silver in relation to its value and the lack of speedy communications operated against the process of adjustment which a metallic standard normally affords through movements of the standard metal. With the co-ordination of currency resulting from the recent change wide discrepancies have rapidly disappeared. The small bulk of bank notes and the ease and speed with which they can be transported by air removes the possibility of wide differences in the internal value of the currency. Money is now available in any part of China at par—subject to the payment of a small remittance fee. The importance of this, when the previous chaotic state of the internal rates of exchange is remembered, needs no emphasis. A beginning has also been made in removing the welter of depreciated subsidiary coinages previously common in China. A new centralized issue of token coins in decimals of the standard dollar is now being undertaken and—in contrast to the many other forms of subsidiary coins with constantly fluctuating values—maintained at par.

Internally the currency change has brought welcome relief from the crushing weight of the previous deflation. Money rates have dropped from the fantastic levels to which they had been forced before November, 1935, although the scarcity of savings and the slow formation of capital still keep rates at a relatively high level. Prices have risen moderately and domestic production is once more back onto a profit-earning basis. Externally, it seems probable that the balance of payments is no longer out of adjustment. There has been a marked reduction in the customary adverse balance of trade which, in December, 1935, for the first time in sixty years, even showed a surplus. The level of exchange at which the Chinese dollar is being successfully maintained has proved a fortunate choice and seems to offer China once more a fair competitive price position on international markets.

Even though theoretically the silver standard under normal and unfettered operation offered certain advantages, the most prominent of which was a comparative immunity from world economic changes, it had nevertheless a number of grave inherent defects. The apparent benefit resulting from a falling purchasing power of silver was only felt over a period of time. The price of silver, however, and with it the bullion parity of the silver exchanges, fluctuated widely from day to day. In addition, the great bulk of silver per unit of value and the long distances between the gold and silver areas made the margin on either side of parity between the "silver points," within which the exchange could move before silver movements became profitable, approximately ten times as great as that between the specie points in the gold standard area. The silver exchanges were therefore subject to wide and irregular day-to-day movements which greatly impeded foreign trade and other transactions, of necessity carried out on a short-term basis. The wide fluctuations between the gold and silver currencies also discouraged the influx of short-term foreign funds which, under stable exchange conditions, are usually available for tiding over temporary deficits on the current balance of payments. Seasonal deficits then tended to be met by specie movements and to cause an unnecessary contraction of internal credit which, in a country like China with limited central banking facilities, could not easily be offset as is properly the custom in other countries.

It was a further fundamental defect of the silver standard in its relation to gold-using countries that the credit adjustments associated with silver movements lacked reciprocity. Although the loss or receipt of silver in silver standard countries caused deflation or expansion in the credit structure through alterations in the credit base, the receipt or loss of silver in gold standard countries could not have a proportionate effect because gold, and not silver, is the basis of credit. The classical reciprocity of internal adjustments under a metallic standard, therefore, very largely disappeared, with the result that the measure of adjustment called for in silver-using countries was unduly magnified and the process made more protracted. In this respect the operation of the silver standard points to the same lesson as that illustrated by the common working of the postwar gold exchange standard, which similarly tended towards one-sided adjustments through the practice of many central banks of keeping their reserves with commercial banks instead of with the central bank in foreign markets. (Although the loss of a central bank's external reserves produced internal contraction in its own market, there was no change, as a rule, in the credit volume abroad.)

The silver standard, in China's unhappy experience, has proved a baneful influence in her economic life. It has exposed China to the necessity of making frequent internal adjustments often unrelated to world economic conditions and originating in the abrupt and incalculable price vagaries of a single basic commodity. Its inherent defects and unsuitability for a country whose development depends so largely on external capital make it an impediment for the emergence of a close-knit world economy and international self-regulating financial system. Alone on a silver standard in a nominally gold standard world, China found the requirements of the standard too onerous a price to pay for the advantages which it offered. Unless silver should again become very widely used by other countries, its re-employment by China as a monetary standard cannot but prove an unhappy retrogression. Silver will, nevertheless, for a long time to come be used in China as a store of value, just as it is in India, and will consequently be in demand as a hoarding medium. Such silver holdings, having in future a fluctuating capital value, will be a source of hidden support for the exchange, as and when they come out of hoards. Although the present paper currency has everywhere been accepted and the transition from metal effected without disturbance, it is to be expected that the age-long attachment of the people to currency with intrinsic value will enable a successful issue of token silver coins to be made, so that further pressure on the price of silver from demonetized stocks may largely be avoided.

China's currency is no longer rigidly linked to any one particular stabilizing medium. Because of China's debtor position and the importance of foreign capital in national development, the value of the currency is being "managed" rather in terms of its external than of its internal value and at a level approximately that to which it had been allowed to fall on the eve of the currency change in November, 1935. China's external economic interests are happily not so closely dependent upon the economy of any one particular foreign country that her interests would best be served by adopting a specific external link. China is seeking in present conditions to maintain a general level of exchange consistent with her financial and economic needs.

In this work of currency management the necessity for appropriate machinery is clearly recognized. Whereas under the silver standard corrective internal adjustments—even though halting and very often exaggerated—were more or less automatically effected, in future such adjustments will very largely depend upon policy. In order that the internal credit structure should be appropriately expanded or contracted in accordance with the trend of the balance of payments and in order that seasonal movements, as at harvest time and the China New Year Festival, may be properly cared for through a conscious policy of temporary expansion, a better co-ordination and technical control of the banking system is necessary. Mitigation of the effects of internal and external seasonal movements has previously been little attempted. Development of a central banking system through centralization of the note issue and the cash of the banking system, and adapted to the needs of China, has now become indispensable. The new Reserve Bank has to be provided with proper equipment and guides to policy formation through improved statistical data of price movements and of the balance of payments—for although the continued imports of silver have long pointed to the existence of a favorable balance of payments in China, the exact cause of this has never been satisfactorily ascertained.

A particular problem for China arises now that the previous relative immunity from world changes has very largely disappeared. China has to face the necessity of getting away from the old commercial mentality arising from generations of economic effort under a continually rising price level which tended towards inefficient methods and an inadequate provision of capital and formation of reserves. Real as this difficulty is, it should not be exaggerated, for the Chinese economy is traditionally elastic and has already learned to appreciate the necessity for such adjustments during the severe deflationary period of 1931-1935.

For some time past China has suffered from the complete drying-up of international long-term lending. The early stage of industrial development into which China is now entering demands an adequate provision of long-term capital. It has unfortunately become a feature of postwar international finance that long-term capital, because of lack of confidence, fear of currency depreciation, and the like, has very largely been converted into short-term form. The instability of this huge mass of short-term credit which surges fitfully between the international money markets has created special and serious problems in currency management. The normal mechanism of international adjustment has become disrupted: short-term credit no longer tends to act as a balancing factor for temporary deficiencies on a country's current balance of payments. It quite often moves against the short-term interest "differential" and thereby accentuates the prevailing disequilibrium, as China's experience showed in the months before the currency change when, in spite of the higher rates normally ruling in China, money was drained out of the country. This shortage of long-term foreign capital, in the face of the pressing needs of China, lays open the danger of a substitution of short-term money in internal development. This danger of investing short-term money long has to be carefully guarded against. China, and other debtor countries, have to be wise and resolute enough to refuse to accept short-term money for transactions for which it is not properly applicable. Closely associated with this top-heavy development of international short-term credit is the increased part now played by speculation in international exchanges. Under normal conditions, the operations of the speculator are often useful, in so far as by working "against the market" he contributes towards equilibrium. But in present-day circumstances, speculation has become a disruptive influence and a serious menace to stability. Managing authorities now require unduly large resources and in their credit policy are constantly faced with the difficulties of dissociating exchange movements due to speculation from those arising normally from the current balance of payments. These problems are particularly relevant in China, not only because of the prominent position occupied by foreign banks but also because the encouragement given by the wide fluctuations of the previous silver exchange has made Shanghai one of the major speculative markets of the world. During the first year of the new currency system several "bear" raids were made on the Chinese dollar, but all have been successfully repulsed. It is a significant tribute to the effectiveness of the official "control" that these attacks have become progressively less frequent and intensive.

For a smoother functioning of international exchanges, a return of confidence and good will is above all indispensable. Until the causes of this world-wide lack of confidence are removed—be they political, in threats of war; economic, in fear of currency depreciation; or financial, in budget difficulties—the dangers arising from big movements of short-term funds will continue. Confidence in a managing authority's ability to maintain the stability of its currency has very largely become the determining factor in the success of currency management. Without it, scarcely any amount of resources can suffice to maintain stability.

An important lesson of international monetary developments is the need for changed methods for meeting the vastly altered conditions under which monetary systems are now called upon to operate. Foremost is the desirability for closer international co-operation in monetary matters. No one country can afford to pursue an independent policy regardless of the needs of others, and China already has reason to feel grateful for welcome co-operation extended from abroad in carrying through the recent currency reform. Although the actual currency change was initiated by China on her own resources without external financial assistance, the support recently given by the United States Government through its purchases of Chinese silver has been of material assistance in enlarging the external currency reserves. The King's Regulation issued by the British Ambassador on November 4, 1935, which led to the British banks' exchanging their silver reserves for the new currency was also of great value from both practical and psychological standpoints. It would undoubtedly have been in the interest of the many foreign banks of different nationalities enjoying extraterritorial privileges in China if the silver standard had not been abandoned and their customary large profits from wide exchange fluctuations made a thing of the past. This shortsighted view, however, was not permitted to prevail: disinterested foreign opinion gave its support to the Chinese Government's currency reform and contributed materially towards the success which it has attained. It is in common work of this kind which overrides political boundaries and gives no foundation for international jealousies that one of the most useful contributions towards world recovery is to be found.

Co-operation, not only between governments, but between central banks, was never more wanted than it is today. The problems to be faced are so great and so interrelated that a common sharing of experience and knowledge and a closer association in everyday matters of policy can only be of the greatest value. The discouragement by central banks of loans in their markets for forward exchange dealings not based on legitimate transactions can be a very helpful measure. A confidential exchange between central banks of the amount of foreign borrowing in their markets, at short and long term, would be a valuable guide to the central banks of borrowing countries in shaping their policies, and would also assist both debtor and creditor markets alike in avoiding the dangers of unhealthy overborrowing from several lending markets due to the ignorance of the separate markets of the accommodation granted by the others. An extension of this principle of exchanging the aggregate total of the credit given to borrowing countries so as to cover large credits to individual borrowers, as has been suggested by Professor Sprague, although faced with more practical difficulties, is also valuable and would prevent such abuses as those which arose in connection with the Kreuger scandal. A greater knowledge by central banks of the movements of foreign short-term funds in their markets is indispensable, particularly if a policy of protecting the internal credit structure from an influx of "bad" short-term money is to be adopted. It is more important than ever that central banks should collect data on the foreign short-term assets and liabilities of their banking and credit systems.

In the stage of transition towards a more stable and adaptable system, in which world currencies find themselves today, and to which the Chinese currency change may have contributed its own small part, monetary policy is being reshaped and new instruments and technique are being adopted. Although many of these changes are, in part, necessitated by the distortions of present-day conditions, some may well survive and find a place in an international system of the future. But whatever progress can be made in improving currency standards and machinery, the lesson of monetary policy remains, unfortunately, as true as ever that, in a world community of nations ordained to common intercourse in trade, progress towards a truly international monetary system can, at best, only be slow so long as nations hesitate to place a greater degree of dependence upon each other and bend their endeavors instead towards making themselves more self-supporting, and at the same time allow fears and shortsighted interests to govern their policies and actions. It is a melancholy reflection that the widespread movement towards autarchy and the subordination of national economic interests to what are, in the ultimate analysis, very largely irrational fears, should have prevailed for so long that the world's productive apparatus and the current of international trade may have been drawn so much nearer to the danger of becoming permanently warped and disjointed that the inevitable inertia, operating against changes in accomplished fact, may bring disappointment to the hopes for a general return to the broader basis to which so much of the world's former prosperity has been due. If the recent alignment in the values of the three major world currencies can be followed by a progressive removal of the hindrances to trade, international commercial and financial relationships may yet be lifted from the cramp in which they have been abnormally set.

THE CURRENCIES OF CHINA: OLD AND NEW

By E. KANN

THE PRECURSOR of currency in China—as in almost all other countries—was barter. However, money in metallic form, as well as in shape of paper, had a much longer career in this country than can be claimed for the Occident.

After having passed the stage of barter, and following experiments with cowrie shells, silk, cloth, and grain, the ancient Chinese became convinced that most of their monetary substitutes were uneven in texture and worth, besides being of a perishable nature. They therefore had recourse to the employment of metallic currency, recognizing its compliance with permanency, portability, and uniformity. Precious metals, of which comparatively small quantities were ever mined in China, found employment as currency in the shape of cubes (gold), or ingots (silver). Copper, procured mainly by the employment of forced labor in days gone by, was greater in volume, yet hardly ever sufficient for monetary purposes. Amalgamated with tin it served throughout thousands of years for casting bronze money.

The currency history of China is filled with thrills and romance. It is as extensive and rash as the country's own history, but unfortunately as shrouded in mystery at certain junctures as the latter. One has to rely on chroniclers of Chinese history, economics, and science for the story of the beginning of Chinese currency. Not only is there a wide variance of views, but an occasional absence of clear and reliable statements of fact.

THE GENESIS OF METALLIC MONEY IN CHINA

In prehistoric times, when means of communications were practically nonexistent, the requirements of the rural population were most unpretentious. When barter was first replaced by monetary tokens, these latter assumed the shape of primitive articles of husbandry: the spade, the knife, the bell, and so on. It was natural that these articles, at first large and uninscribed, but gradually smaller and inscribed, were chosen as monetary symbols, for they had long served as standard commodities for barter. For the same reason we find in the shape of the Pu coins (Pu, "cloth") an attempt to imitate a person's costume.

In attempting to trace the origin of Chinese metallic money one might turn to the chronicles of the historian Ma-twan-lin,[1] where a passage relating thereto reads in translation as follows:

> Since the reign of T'ai Hao (B.C. 2852) money is supposed to have been extant. In the reign of T'ai Hao it was called Kin, and in that of Yeu-nai-sze (B.C. 2697) and of Kao-sin-sze (B.C. 2435) it was called Hoa (merchandise). T'ao-t'ang-sze called it Tsuan (fountain), the people of Shang and Tsi called it Pu, a hempen and silken piece of cloth, and the people of Tsi and Keu called it Tao, knife. The money of the first three dynasties of Yu, Hia, and Shang (B.C. 2255-1766) was made of three different sorts of metal: yellow, white, and red (meaning gold, silver, and copper), and consisted further of cloth, knives, and tortoise shells.

This passage is a witness to the existence, say 2,500 years before Christ, of metallic money in China, but the money was unconnected with coins and was circulated in the primitive shapes already described. Gold and silver were used to an infinitesimal degree only, not merely due to the rarity of these metals, but mainly because the intrinsic value was far too high for the mass of the people. For example, as lately as 2,000 years ago an individual of the lower classes did not even spend one cash (nominally one-thousandth of the recent Chinese dollar) a day to satisfy his needs.

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[1] See Dr. W. Vissering, *On Chinese Currency*, Leiden, 1877.

ANCIENT BRONZE COINS

The handle of the old knife money ended in a ring, so that it could be carried on a string. Possibly it was this shape which led to the evolution of round money in China. The first round money with a square hole in its center was cast in the beginning of the Chou dynasty's reign (commenced B.C. 1022). Although weight, size, and inscriptions of the old hole cash underwent many alterations in the course of centuries, the form and main characteristics remained typical for nearly 3,000 years.

Guilds and commercial corporations were at times granted permission to cast and issue bronze cash, which had originally been the prerogative of the government. This practice culminated in irregularities in regard to the composition and weight of the coins. Professional forgers soon set to work, and as a natural consequence of willful adulteration the cost of living rose.

Ancient cash coins, of which a variety of over 5,000 is known to exist, were invariably cast and not minted. In 1915 and 1916, when the exigencies of the World War demanded excessively large supplies of copper, huge quantities of old bronze cash were collected and shipped out of the country, mainly to Japan, notwithstanding the fact that there was (and still is) an embargo on the outflow of copper from China. In 1920 ancient cash coins were still to be found in China's interior marts, but since then they have gradually disappeared and may now be considered as obsolete.

MODERN COPPER COINS

The first modern copper coin, the one-cent piece, was struck by machinery in Canton in 1900. Its success was immediate and culminated in an insatiable demand. Meant to represent the one-hundredth part of the Chinese silver dollar, market prices in certain districts recorded quotations of 85 copper cents per dollar. This unexpected success induced almost all the governors of

China's provinces to order minting plants, where the new coin was produced by the billion. By 1907 the markets were saturated with the new copper money, and as their price fell rapidly, most of the provincial mints had to cease working. During the first eight years a minimum quantity of ten billion one-cent coins had been minted in China.

After a brief pause the republican regime began new minting activities. Provincial governors were hard pressed for funds and decided to obtain them by turning out debased copper coins. This practice naturally brought the value of the modern cent piece to much lower levels, to the detriment of the working classes and farmers, whose household budget was based on copper money. Strike movements, hitherto unknown, had their roots in the constantly depreciating copper cent. In 1935 one could obtain 335 copper cents for one silver dollar in Shanghai. Certain provinces in the north and west of China, whose coinage plants turned out two-cent coppers, saw their currency depreciating to the extent of 550 copper cents per dollar.

PAPER MONEY IN CHINA

Historical descriptions and sketches of paper money issued during the T'ang dynasty (A.D. ca. 650) are on record. However, no specimen has survived and some students cast doubt on the authenticity of such a note. However, it is a well-established fact that paper money circulated in China from the reign of Emperor Hsien-tsung (A.D. 806-821) onward. From these statements it might be inferred that China not only was first in using paper money, but she did so 850 to 1,000 years before the Occident knew of its functions. Fiat money was not only invented in China but the authorities there grasped the necessity of maintaining metallic reserves against such issues. These reserves were at first held to the extent of three-sevenths of the notes issued. At that time, and during the next few centuries, limits as to the size of total emissions were set and redemption in triennial intervals were provided for by law.

However, wars were a direct cause for overissuance and for inability to redeem previous series falling due for payment. China invented banknotes and their use, but she also owns the doubtful record of having been the first nation to repudiate previous issues. Because forgers were at work as well heavy depreciation of paper money soon became very common.

Originally almost all fiat money called for Kwan (strings of copper cash), but during the rule of the Mongol Yuan dynasty (A.D. ca. 1260) tael notes also were emitted by Kublai Khan. During the reign of the latter's dynastic successors paper money was subjected to constant depreciation, mainly due to incessant wars. This movement continued while the Ming emperors were on the throne. By A.D. 1567 there were no more notes in circulation, for the impoverished public had lost all confidence in fiat money.

Upon entering Peking in A.D. 1644 the Manchus planned to enlarge the circulation of copper coins and to do away with the paper evil. During the first years of their reign they issued some treasury bills, but apart from this no paper money was emitted for two hundred years. Only in A.D. 1852, when the Taiping Rebellion made the expansion of circulation necessary, was there a new issue of copper cash and tael notes in Peking. This ended still more ingloriously than most of its precursors, since the notes became finally irredeemable and valueless.

Thereafter the government abandoned issuing notes, leaving this function to private banking and to provincial banks. The misery brought upon the Manchurian provinces by the unchecked emission of unsecured notes is too well known to require reiteration here. Various provincial banks were forced by the chronic excess of expenditure over revenue to overissue, with the result that many institutions repudiated their circulation. This took place during the first three decades of the twentieth century, when there was no effective government control concerning banknotes and reserves to be held against them.

In recent years special laws were promulgated in connection with issues of banknotes, in terms of which one hundred per cent reserves were to be held against the total issue. Sixty per cent of the reserve was to consist of silver in bullion or coin and the balance of forty per cent of marketable securities.[2]

GOLD IN CHINA

Undoubtedly gold has at various times, and in various shapes, been used as measure of values in China, but it never has been currency there. During the Middle Ages the ratio of value between gold and silver in this country was 1:10. In China proper no gold coins were current if we overlook the modest and futile attempt, made by Yunnan province in 1918, to circulate gold coins.

The production of gold in China is ridiculously small, the bulk of existing supplies being derived from imported stocks. The major portion of these are converted into gold bars, which used to play an important role when Chinese currency rested on silver. Now, however, gold bars are losing importance, especially because their export abroad has been prohibited since May, 1930.

The only form in which gold might be considered currency in China is the Customs Gold Unit, an imaginary unit containing 60.1866 centigrams of fine gold. All import duties are being collected in this money, a measure adopted in February, 1930, to enable China to meet her loan obligations contracted in foreign monies.[3]

[2] See The Central Bank of China's *Quarterly* of June and October, 1936, and January, 1937, for three essays on "Banknotes in China" by E. Kann.

[3] See The Royal Asiatic Society's *Journal* for 1929 (Vol. LX), where an essay on "Gold in China," by E. Kann, is reproduced.

SILVER AS CURRENCY IN CHINA

Unlike gold, silver served for centuries as currency throughout China. Unquestioned evidence exists that even during the reign of the T'ang dynasty (A.D. ca. 825) boat-shaped silver ingots were available. The Sung emperors had silver in round ingots (A.D. ca. 1125). The rival dynasty, the Ch'in, ruling at the same time, created silver ingots in the shape of a flat weight. The familiar "sycee shoe," abolished in 1933 but still occasionally found, was created under Kublai Khan in about the year 1270 A.D.

At no time did China produce silver in paying quantities. An output from her own mines could only be obtained through the employment of convict or forced labor, for otherwise production cost would have proved prohibitive. All the silver China ever held is derived from imports. Nearly twenty centuries ago, when China entertained direct trade relations with Arabia and other nations, silver began to flow into the country. During the Middle Ages the East India Company sent large trading vessels to China, paying in silver for most of the articles purchased there. From the fifteenth century onward sailing ships from the Philippine Islands called in South China ports and paid for their acquisitions with Spanish silver dollars.

In the course of centuries enormous quantities of silver entered China from foreign countries. But allowing for the very large exports during the years 1934-1936, and the stupendous quantities that have been smuggled out during the identical period, I have reason to estimate that there remains in China one and one-half billion ounces of silver in all shapes.

Although minted dollar coins of foreign manufacture were current in the southern ports of China in the Middle Ages, they were accepted there by weight only, and not by count. This shows that the conservative Chinese mind insisted on recognizing silver exclusively in the shape of bullion. The tael, which, by the way, differed in every commercial center as to weight and fineness, formed a most important medium of payment. Invariably its manufacture was left to private enterprise (primitive smelting shops called *loofangs*) and its control to guild representatives (Kung-ku-chü). At no time was the government concerned with the production of sycee silver, nor with the examination of its fine content or weight. Nevertheless the sycee tael always proved to be what it purported to represent.

In April, 1933, the ancient sycee tael was abolished at the initiative of Mr. T. V. Soong, then Minister of Finance. This was done after very careful deliberations on the part of a specially selected committee (of which the writer was a member), and it was effected without in any way disturbing the economic structure of the country. Its place was taken by a uniform national standard silver dollar.

In 1889 the first modern mint was opened in Canton. One year thereafter the first silver dollar with the dragon emblem was produced there. Hitherto divers foreign dollar coins had been circulating in China. The oldest specimen was the Spanish Carolus dollar. Upon cessation of its coinage in 1825 (it had been produced in Mexico, then a Spanish colony), the Mexican dollar immediately took its place, not merely in China, but also in Japan, Indo-China, Malay, and the Straits Settlements. In fact, the Mexican dollar was the most widely used coin in history. Due to its maintenance of uniformity in fineness and weight, the Mexican dollar for centuries held the confidence of all these peoples.

Both Britain and France, when taking charge of the new colonies of Hongkong and Indo-China, attempted to introduce there the currencies of the mother countries. However, because of the proximity of Chinese territory and its large trade, the silver standard was retained in both instances. This resulted in the creation of the British silver dollar, meant for Hongkong, but widely circulating on the Chinese mainland, even in the North. The Saigon piastre having been current in the neighboring provinces of Yunnan and Kweichow, originated under similar conditions.

In 1873, the year of a severe economic crisis all over the world, silver prices dropped considerably. Both the United States and Japan then thought it appropriate to mint a trade dollar and a silver yen, respectively, for circulation in China. These foreign dollar coins had a friendly reception, even when circulating side by side (after 1890) with the newly minted Chinese dragon dollar. The average weight and fineness of these heterogeneous varieties of dollars were as nearly as possible the same, and the coins retained their uniformity for decades. However, shortly after the inauguration of the republican régime, the intrinsic value of the silver unit was officially lowered. At the same time unscrupulous generals secretly opened plants for the manufacture of adulterated dollar pieces. The result, of course, illustrated Gresham's law, for all the foreign silver coins, and later China's dragon dollars, disappeared.

Upon the abolition of the sycee tael, in April, 1933, a new official silver unit was created, called the Standard National Silver Dollar. Intended to replace the mass of coins hitherto current in China, the new unit showed on the obverse the bust of Dr. Sun Yat-sen, while the reverse was adorned by a representation of a junk at sea. It was 880/1000ths fine and weighed 26.6971 grams gross, or 23.493448 grams fine. The lowering of the intrinsic value by about 2.25 per cent was necessitated by the cost of minting, or reminting, the new coin. The new dollar became very popular, but it had to be abolished when the currency reform of November 3, 1935, made the silver dollar basis superfluous and obsolete.

An important role was played by Chinese subsidiary silver money. This existed in denominations of 5, 10, 20, and 50 cents and—like modern copper cents—was meant to remain decimals of the dollar. However, due to the rapacity of the imperial provincial governors, larger quantities of small coins were turned out than the market was able to absorb. As a direct consequence subsidiary silver coins gradually dropped in value and were subjected to daily fluctuations in their price ratio. Another source of confusion was the deliberate debasement of 10- and 20-cent coins originated by the mints in the South. Professional forgers, as always, were at work, adding many spurious coins to an already much injured circulation.[4]

FACTORS CALLING FOR VITAL CHANGES

From this very brief historical narrative, it will be discerned that China was suffering from the disadvantages of a currency "system" which did not possess any of the features inherent in a planned system. From the beginning of the current century China was *de facto* on a silver basis. This meant instability of prices and cost of living. Note issues were decentralized and repudiation of redemption was not infrequently encountered; at the same time depreciation in the value of fiat money was not uncommon. The fall in the market value of copper cents (up to 350 per dollar) and the decline of subsidiary silver coins (125 cents and even higher) helped to keep the working classes and the rural population impoverished.

In September of 1931, Great Britain—much against her inclination—had to abandon the gold standard. This action culminated in a depreciation of English money; at first by 20, gradually by 30, and finally by 40 per cent. Her example was followed by a number of other countries, including Japan, a neighbor and competitor of China.

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[4] The problem of silver in all its phases, and especially its relationship to Chinese silver money, has been exhaustively dealt with in "The Currencies of China," Shanghai, 1927, by E. Kann.

At that particular period the world-wide economic crisis had given proofs of its tenacity. Prices everywhere declined at an alarming pace, as was evidenced by wholesale commodity indices. Yet, strange to say, China was spared the convulsions caused by the merciless downward trend of values. In this country a movement in the contrary direction became discernible. How was this to be explained?

China then was the only country in the world where upward price movements of almost all commodities were recorded. Due to the economic depression silver prices abroad fell steadily to hitherto unknown levels. Since Chinese currency rested on silver values in foreign countries, our money became cheap in terms of gold or *devisen;* hence the local rise in commodity prices and real estate values. The downward movement of silver continued in 1932. All that time we had an apparent boom in China. As was shown later on, it was false prosperity based upon silver—on instability.

As long as the downward move of this metal's price abroad continued China had the advantage of enjoying the pleasant side of currency depreciation. It must be borne in mind that this apparent blessing had come about without her government's interfering. China, thrown into the vortex caused by the world crisis and its immediate consequence, had simply come out on top. Yet her luck was dependent upon the continuing depression of the price of silver. But if this price moved upwards to an appreciable extent, then China would be forced into a losing fight against insurmountable difficulties.

SILVER THE CULPRIT?

It soon became obvious that China was destined for such a struggle. Silver prices in foreign countries began to rise. Due to constant endeavors on the part of American silver legislators a law was signed by the President of the United States on June

20, 1934, nationalizing all the silver in that country and authorizing a buying campaign. Silver prices abroad rose faster than China (whose currency was based on silver and its value abroad) could follow suit. This meant that silver prices aboard were at a higher level than in China, and as a direct consequence money began to flow away from China. This outward movement represented in part a flight of capital and in part a repatriation of silver funds which had been permitted to accumulate in China for years past, mainly because of the exceptionally low rates of exchange which had been ruling in recent years.

At first the Chinese government viewed the outflow of silver calmly, though not without anxiety. But when the currents moved too fast the authorities were obliged to proclaim (on October 15, 1934) a duty of 10 per cent on all silver to be exported, plus a charge equaling the deficiency existing between the theoretical parity of London silver and a rate of exchange officially fixed by the Central Bank of China. This measure was helpful in reducing the outflow of silver from China, but it could not prevent its smuggling.

In the spring of 1935 the price of the white metal abroad rose sharply, so that the Shanghai exchange remained far below parity, at one time (October, 1935) to the extent of 45 per cent. Such discrepancies made smuggling of silver from China very profitable. The country was in danger of losing the bulk of her supplies. By waiting patiently for an amelioration of the situation, and hoping against hope that there might come a favorable turn, the authorities found themselves in an intolerable and precarious position. Chinese exchange rates which had been driven unduly high by artificial means proved doubly deflationary: first, through an appreciation of the monetary standard and, second, through the contraction of the credit structure.

Repeated appeals to the government of the United States to discourage measures which were causing a rise in silver prices fell on deaf ears. The constantly rising value of the Chinese dollar, as expressed in local exchange rates, tended to stifle Chinese export business; it also tended to curtail seriously the net proceeds of remittances from Chinese abroad. These means had hitherto served to pay for the import of foreign merchandise, and their reduction culminated in the diminution of the country's foreign trade. The worst consequences, however, of mounting silver prices were to be seen in their deflationary effects which sapped the roots of China's economic structure. The wholesale commodity index at Shanghai was as high as 126 in 1931; by July, 1935, it had dropped to 90.

Through the measures adopted by the Chinese government in October, 1934, the silver standard—to which the country had adhered so long—was suspended as far as foreign countries were concerned. Internally it continued to function, since notes were redeemable in silver, but as long as the latter continued to circulate freely in China it was impossible to arrest the drain of the metal.

A further consequence of rapidly rising silver prices abroad was a large contraction of currency and credit in China. At one time (in the autumn of 1935) the difference between ready and forward exchange for one month worked out at 28.25 per cent per annum. Interest rates charged by native banks, which hitherto had stood at and under 6 per cent per annum, had (in December, 1934, and January, 1935) advanced to over 25 per cent. Real estate, for decades considered the safest investment, suddenly became unsalable and unloanable. Mortgages and interest were defaulted in the majority of cases. Construction projects had to be abandoned, and government financing became more than difficult. Bonds and stocks declined in value and business failures multiplied.

Prices paid by the farming population (representing about 80 per cent of the total) for necessities showed a decline during the period of deflation. But prices received by the same group for its produce divulged a reduction that was considerably larger and which inflicted misery on the people who had no reserves on which to fall back. In the course of 1931 to 1934 prices of raw materials in China had fallen more violently than those of manufactured products, the ratio being 36.57 to 16.23.

A large portion of the assets of banks had become "frozen" by 1935. When the crisis was at its height a struggle for liquidity set in, resulting in but meager success. The pressure on debtors to refund their obligations tended to aggravate the uncertainties and difficulties of the situation and often resulted in the disposal of collateral at sacrifice prices in an unwilling market. Industries were, of course, suffering greatly from declining prices. Many native banks failed in 1935 as a direct consequence of the economic crisis.

THE GOVERNMENT IS FORCED TO ACT

Surrounded by such a multitude of difficulties, obstacles, and blind alleys, the authorities were forced into action. China had some time ago clearly recognized that she would have to abandon silver as a basis for her currency, unless America was willing to abandon her silver policy. Since the legitimate export of the white metal had been made impossible by previously adopted measures, and since the virtual suspension of note redemption in many places outside Shanghai had already impaired the free functioning of the silver standard, it merely remained for the authorities to legalize the *de facto* status.

This was reluctantly done on November 3, 1935 (a Sunday) by a government decree saying that henceforth notes of the Central Bank of China, the Bank of China, and the Bank of Communications were to be full legal tender. The use of silver for currency purposes was to be stopped entirely and the discharge of all private and public debts was to be effected in legal tender notes. For the purpose of keeping the exchange value of the Chinese dollar stable it was decreed that the three government banks would buy and sell foreign exchange in unlimited quantities, starting with the level of 1s/2.5d and U.S. $0.2975 per legal tender dollar.

All silver supplies had to be delivered to the government banks, the latter paying a legal tender note for each silver dollar and the same amount for $1.20 in subsidiary silver coins. All the banks, both Chinese and foreign (with the exception of the Japanese banking institutions) have given up their silver supplies to the government against legal tender notes. In the course of the first year large quantities of silver were sold abroad, mainly to the United States Treasury, and the proceeds were used as reserves for drawings in foreign currencies.

New ½-cent and 1-cent copper coins have been minted since January, 1936, and circulated strictly on a decimal basis. From the same date nickel subsidiary pieces in denominations of 5, 10, and 20 cents are being produced by the Central Mint at Shanghai. The production of half-dollar and one-dollar coins from silver have been decided upon, but they had not yet been placed in circulation by November, 1936. These two coins will contain much less silver than their precursors and will have to be considered as token coins. The old copper cents are being redeemed at a ratio of 300 cents to the dollar.

THE FIRST YEAR

During the first year of its existence the reformed currency system of China has worked excellently. There were some major attacks on the currency, but these were met without difficulties by the Central Bank of China. Though officially nameless the new system might appropriately be styled a "Foreign Exchange Standard." The relation of the new Chinese legal tender dollar to the pound sterling and the American dollar, though not definitely fixed, has nevertheless been maintained almost unimpaired during the first year of its career. It ought to be emphasized that under prevailing conditions the Chinese dollar is not tied to sterling or to United States currency. It strives to remain independent and may claim greater stability during the first year of its existence than any other currency of the world. This in spite of most gloomy prognostications from many sides soon after its birth. China is watching the consolidation of the major countries' currency systems before deciding whether to close alliances and with whom.

JAPAN

THE RECENT MONETARY POLICY OF JAPAN

By Eigo Fukai

During the World War Japan found herself in the advantageous position of being far removed from the scene of hostilities. Not only did she receive large orders for that reason from the allied countries for war supplies and for other commodities, but other countries in the East and elsewhere, which had previously received supplies of goods from belligerent countries, also turned to her. Japanese export trade consequently experienced a phenomenal growth. The World War marked a period of great industrial development and rapid economic expansion. Indeed, during the four years 1915-1918 the balance of merchandise trade showed a substantial excess of exports over imports. The shipping industry likewise became extraordinarily active. As a result the receipts in the country's international accounts increased markedly, and Japan abandoned her position of a debtor country and was even enabled to grant temporary credits to some of the allied nations. Japan's abandonment of the gold standard in 1917 was therefore not necessitated by her financial situation; but, when in September of that year the United States, which had provided the only free gold market in the world, came to place restrictions on the export of gold, it was thought that Japan would be ill-advised to abide alone by the gold standard, and she followed suit by imposing an embargo on gold exports. Yet our position with respect to international payments was so strong that the exchange on New York remained far above $50 as against a par of $49.85 per ¥100; it even rose as high as $52⅛ in 1918.

From the monetary standpoint the problem then was how to finance the large one-sided exports, both visible and invisible, when gold shipments were restricted and risky. The advances of the Bank of Japan on foreign bills alone increased ¥400 million, and the Government stepped in to buy with funds raised by loans at home the balances of the exchange banks accruing abroad. This procedure also afforded the occasion for building up the country's much-needed reserves of gold and gold credits. The holdings of gold and gold credits or foreign balances of both the Government and the Bank, which at the end of 1914 amounted to no more than ¥340 million, increased by the end of 1920 to ¥2,170 million. The specie reserve of the Bank of Japan rose during the same period from ¥210 million to ¥1,240 million and the note circulation increased from ¥380 million to ¥1,430 million. The activity in the manufacture of export goods as well as in other branches of industry stimulated the demands for advances which, together with the increase of currency, brought about a great credit expansion. In consequence of the heavy demand for commodities prices soared and large profits were made, giving rise to a veritable boom.

The prosperous condition of business up to about the end of 1918 appears to have been founded upon genuine economic strength. After the Armistice, however, the trend of our foreign trade swung to the other direction with a drastic change in the economic position of the country. Still, business generally entertained high hopes of a postwar burst of prosperity, and this attitude found its expression in the growth of speculative enthusiasm and, with it, in the persistent and abnormal advance in prices. To give warning of the approaching danger, the Bank of Japan raised its discount rate four times between September, 1918, and November, 1919, the rate on commercial paper being advanced from 5.11 per cent to 8.03 per cent. But the worst could not be averted after all, and in March, 1920, came the great reaction, which marked the end of the postwar prosperity.

The great panic which originated in a collapse on the stock exchange in March 1920 spread in all directions. Commercial transactions came to an almost complete standstill; foreign trade dwindled; and prices fell precipitately. But it was firmly believed that the slump would soon give way to prosperity, and the urgency of business readjustment was not fully realized. Despite a heavy decline in profits, the habits of extravagance and high living still remained, and financial reserves accumulated during the boom period were allowed to be dissipated. In the money market, too, the disposition to extreme caution was gradually subdued, and currency and credit, which for a time had tended to contract, tended to expand again. Commodity prices, which by April 1921 had struck bottom, began to show an upturn, and there ensued a brief period of boom. High prices at home impeded the advance of, and actually caused a considerable decline in, the export trade, with the result that the markets for our goods in the East and the South Seas secured during the War were being lost. In contrast, various kinds of commodities were increasingly imported because of the disparity in prices obtaining at home and abroad. The balance of trade continued to be heavily against us and the country's holdings of foreign funds had to be drawn upon steadily for exchange purposes.

All the efforts made to deflate the overexpanded credit position and regain equilibrium in our international payments had not yet begun to function when that catastrophic earthquake and fire of September, 1923, further retarded business readjustment. Hundreds of thousands of homes in Tokyo and Yokohama were reduced to ashes, in addition to enormous casualties, the property losses being estimated at several billions of yen. Not only was a large volume of outstanding bills rendered uncollectible, but fresh loans had to be made for relief and reconstruction purposes. To inspire confidence and to tide over the crisis, financial aid was liberally extended in the form of emergency advances by the Bank of Japan to the banks holding bills originating in the stricken regions, under government indemnification of probable losses up to ¥100 million. The disaster also necessitated a heavy importation of foodstuffs and reconstruction materials which, coupled with the decline in exports, caused our balance of payments to turn distinctly adverse for years in succession. Foreign credits and balances built up in time of prosperity were now being quickly exhausted, substantial new foreign loans were contracted for the purpose of meeting obligations abroad, and soon Japan had to revert to the position of a debtor country.

The work of rehabilitation following the catastrophe, giving rise to an insistent demand for materials, lent business the semblance of prosperity for the time being. However, as things began to settle down, the scars of the disaster made themselves painfully felt. Economic activity slowed down; commodity prices, which had for a time been tending to advance, moved downwards; industrial enterprises, which had benefited by a continuance of an inflationary money situation and by high commodity prices, crumbled under the blow sustained, and many companies collapsed. A prolonged period of business depression followed. The Bank of Japan lowered its official rate, which had been maintained at the high level of 8.03 per cent since November, 1919, three times between April 1925 and March 1927 to 5.84 per cent. Because of the depression and hard times bank loans were tied up; the repayment of debts with respect to earthquake bills became increasingly difficult, and the period for discounting such bills by renewal at the Bank of Japan—originally set at two years to September 30, 1925—had to be extended twice to September 1927. The Government, therefore, instead of having the outstanding earthquake bills indefinitely renewed and carried by banks, early in 1927 decided on and introduced in the Diet measures providing for the liquidation of these bills by further government aid. In the course of deliberation in the Diet over the proposed measures a disclosure was incidentally made of the unsound condition of a few banks. This occasioned financial troubles on an unprecedented scale in March, 1927. The real cause of the panic, however, must be sought, in the first place, in the excessive business expansion during the postwar years; second, in the retardation of necessary economic readjustment and in the deterioration of the condition of the banks due to the panic of 1920; third, in the earthquake of 1923; and fourth, in the intervening period of prosperity alluded to above.

In the wake of these financial disturbances, thirty-two banks were forced to close. To cope with the situation, the Bank of Japan again greatly expanded its advances in order to prevent the breakdown of the whole credit system. On April 25, 1927, the outstanding amount of the loans and discounts of the Bank rose to ¥2,000 million, though they were substantially repaid once the situation was put under control. The note issue rose to ¥2,600 million. These are the record figures for all time in this country. May 5, 1927, saw the promulgation of the laws authorizing the Bank to make special advances under government indemnification of probable losses up to ¥700 million, including relief for banks in Taiwan. As a result of the application of these emergency measures conditions settled down by degrees.

The financial disturbances had one salutary effect in eliminating unsound banks. Consolidation and amalgamation among banks for the purpose of enhancing stability were also accelerated. Many of the defaulting banks and others carrying large unliquidated loans were given advances under the government indemnification, which helped them to carry out reorganization, through mergers with other banks, or otherwise. Industrialists, too, who had previously been receiving credits from the banks which closed, were obliged to overhaul their businesses. Reductions in invested capital, mergers, dissolutions, curtailment of production were the order of the day. Thus readjustment and rationalization processes made much headway, leading finally to the lifting of the gold embargo.

During the one-year period of the operation of the emergency advances, over ¥800 million were loaned out by the Bank. These advances were no more than an expediency aimed at protecting the depositors and facilitating the liquidation of the frozen resources in the defaulted banks. Repayment of the advances could not, in the nature of things, be expected within a short period; but the vast amount of credit thus granted had the result of supplying the market with funds much in excess of the normal requirements of business. The consequent plethora of funds and an unusual easiness of money created a new danger of inflation. Although the actual note circulation did not increase materially, bankers' deposits with the Bank of Japan rose and at one time reached more than ¥500 million, as compared with an average of ¥50 million previously maintained. Because of the business depression, for one thing, demands for funds were extremely low, money rates tended towards lower levels, and, in the absence of other suitable outlets for idle funds, banks turned to security investments. Whereupon the Bank of Japan endeavored to take the floating funds off the market by selling government bonds out of its holdings. The total of such sales amounted to ¥460 million. These bonds had been delivered to the Bank in compensation for its losses in connection with the earthquake bills and with the relief of banks in Taiwan, furnishing a new stock from which to draw. To a reasonable extent a contraction of the overexpanded currency was thus effected. Still, this operation was not sufficient for the purpose and the tendency was for the financial institutions to purchase foreign securities, especially government bonds and corporation debentures issued abroad, or to repay their foreign loans. This, again, could not but affect our international accounts adversely.

Turning now to the question of our foreign exchange, we find that it was only after the United States raised her gold embargo in June, 1919, that the embargo on this side began to make its effect felt on the exchanges. The yen exchange weakened and came down to around $48 by the end of 1920. But the depreciation was still slight during the period from 1921 to 1923, the level of $47 to $48 having been maintained even after the great earthquake. That the exchange was kept relatively high in the face of such a national calamity, however, was mainly due to the sales of government funds abroad. Following the earthquake, loans were raised in foreign countries in quick succession by the Government and municipalities as well as by private corporations. Foreign borrowings in the six years from 1924 to 1929 aggregated ¥1,200 million as against ¥600 million repaid in the same period. The proceeds of these loans were applied towards the settlement of the excess of payments in the country's international accounts. These loan operations tended to support the exchange, but they were primarily intended for meeting foreign obligations as well as for payment of necessary imports. The sales of government funds, therefore, were meted out only according to the urgency of the needs, as approved by the Government, and were even suspended for a while. It is for this reason that the movements of exchange rates were irregular in this period. When the sales did not satisfy the momentary requirements of the exchange market, the exchange suffered a break. By the end of 1924 the rate dropped to as low as $38 and fluctuated for some time between $38 and $43.

Because of the hindrance of this erratic exchange to trade and industry, the Government resumed the sales of foreign funds on a more liberal scale, and in 1925 began the shipment of gold. This had the effect of bringing about the subsequent recovery in the rate of exchange. Also, as a result of the Government's endeavor to speed up the liquidation of the earthquake bills, which gave an impression that the measure was taken with a view to bringing about a condition suitable for the removal of the gold embargo, a rate of $49 was recorded by March, 1927. The upward movement, however, was checked by the financial crisis which occurred in the middle of the same month. Thenceforward, the exchange underwent violent fluctuations subject to various influences, the general trend being towards weakness.

Meanwhile, the constant fluctuations and depreciation of the currency value were arousing popular attention, and the removal of the gold embargo came occasionally under discussion. At one time that step was considered advisable as a means of contracting the currency, enforcing a fall in commodity prices, and thereby hastening the much-needed economic readjustment. At other times it was advocated for its possible effect in stimulating the emergence from the depression through recovery of the currency value and stabilization of exchange rates. A substantial liquidation of the overexpanded credit position had to precede any step for lifting the embargo. At the same time, it was thought most suitable that the decision regarding the return to gold be taken while we still had enough gold with which we could afford to part. It was not before July, 1929, when a new Government came into power, that any serious and concerted efforts began to be made for the stabilization of the yen without devaluation.

Having determined upon this task, the Government adopted a policy of financial deflation, which involved readjustment of the national finances and rigorous restriction of government borrowings, while the practice of thrift and economy was urged upon the nation. It was hoped that by forcing down domestic prices imports might be checked and exports increased, and the country's position in international payments be improved. As a matter of fact, while the preparatory measures were being steadily carried out, our foreign trade made a distinctly favorable showing. Anticipation of a rising value of the yen caused exports to be hurried and imports put off. In some cases, imports were financed by temporary foreign credits. There was also an influx of foreign capital of a forestalling nature. Consequently, our rate of exchange advanced decidedly and the rate on New York, gaining more than five dollars in the short space of six months, rose very close to parity. On November 21, 1929, the Government announced the removal of the embargo on gold exports, effective as of January 11, 1930.

The rapid appreciation in the exchange value of the yen exercised a depressing influence upon business, and as the Government's retrenchment policy was working in the same direction, commodity prices had already been tending downwards prior to the lifting of the gold embargo. A deterioration of business conditions should have been expected as the immediate result of our return to gold, but it so happened that the world depression, started by the panic in United States in the autumn of 1929, aggravated the situation beyond all expectations. The country's trade position did not show the improvement looked for. The export trade declined owing both to the decrease of demands for our goods in foreign markets and a fall in world prices. All the principal international commodities suffered severe declines which reacted on domestic prices. Commercial transactions were curtailed and business enterprises held up. Many industries were placed in a difficult position, with the result that an increasing number of companies were forced to liquidate their business or to make reductions in their capital stock. So severe were the depression and the stress of readjustment that the people began to feel disappointment in the gold standard.

In the meantime the country suffered a heavy outflow of gold. Speculative dealings in the yen created a strong and persistent demand for foreign exchange, while on account of the slack demand for currency and credit at home, loanable funds in the market were diverted to investment in foreign securities or repayment of obligations contracted before the raising of the gold embargo. Gold steadily found its way out of the country. There followed a pronounced contraction in the amount of currency in circulation and the note issue of the Bank of Japan declined by about ¥200 million in the course of a year, bringing with it a general contraction of credit. The reduced state of business activity kept demands for fresh funds very low and in consequence money rates did not stiffen particularly, though the banks were very wary in extending credits, especially long-term credits. As a consequence the new issue market and, with it, business in securities generally, were extremely stagnant. In these circumstances the internal money rate had little to do with the outflow of funds, and the Bank of Japan lowered its discount rate in October, 1930, to 5.11 per cent from 5.48 per cent as reduced in October, 1927, in order to facilitate business activity at home.

The outbreak of the Manchurian affair and the abandonment by Great Britain of the gold standard in September, 1931, caused sharp falls in the prices of securities and staple commodities. Apprehension over the fate of the gold standard in this country induced a heavy selling of the yen to acquire dollars as well as to invest in dollar securities. Naturally this was followed by a recurrence of substantial shipments of gold from this country. By this time it became evident that recourse was being had to borrowing at home to obtain funds wherewith to carry on speculative dealings in the yen. The Bank of Japan, therefore, raised its discount rate twice in October and November, 1931, to 6.57 per cent, while the demand for gold or foreign exchange was met freely to save the gold standard. This, however, was of no avail in stemming the tide of capital flight, to which this outward gold movement really amounted. Gold exports continued unabated, the amount reaching ¥350 million between September and December, 1931, which was in addition to ¥370 million lost since the removal of the gold embargo in January, 1930. The resources of the money market became more and more scarce and with the approach of the end of the year money rates tended distinctly to stiffen. The Bank's gold reserve, which amounted to ¥1,072 million at the end of 1929, was reduced to as little as ¥469 million in the two years of the restoration of the gold standard, from which we finally had to depart again. The ministerial change which occurred on December 13, 1931, provided the occasion for the reimposition of the embargo on gold exports and the suspension of the conversion of bank notes.

The experience has shown afresh that it is after all well-nigh impossible to control the trend of economic forces by monetary measures, and that monetary action is ineffectual when the trend is moving the other way, that is, if conditions are such that the co-operation of the public cannot be secured. While the experiment of deflation proved unsuccessful in keeping us on gold, it had at least the effect, as a means to combat the depression, of strengthening the basis of our industries by enforcing the lowering of production costs, improvement of technical skill, and rationalization of business management.

With the abandonment of the gold standard a change of front in our monetary policy was made possible. It enabled us to make up the deficiency of currency caused by the heavy outflow of gold. It permitted increased and more liberal supplies of money and the lowering of money rates, so as to relieve industries of monetary pressure and generally to promote economic recovery. But even though the Bank of Japan was prepared to make advances and supply the needed currency, the spirit of the nation was at a low ebb, and there was little demand for funds for sound purposes.

Just at that time the Government was in need of issuing loans, in order to cover the deficit in the revenues arising from the business depression, and to finance farm and emergency relief works, in addition to defraying the expenses necessitated by the Manchurian affair. As the money market was depleted of loanable funds, these issues, instead of being offered for public subscription, which would certainly have resulted in greater monetary stringency, were taken up by the Bank of Japan. As the proceeds found their way into the market through Treasury disbursements, the deposits at the banks increased, the market resources which had been drained were replenished, and monetary relaxation followed. At first the Bank refrained from selling the securities thus coming into its possession; it was only when the surplus funds in the market sufficiently increased and money became easier that the Bank proceeded to sell them more freely. This method of subscribing for new government bond issues by the Bank of Japan in the first instance and disposing of them later as the demand therefor arose has been invariably pursued thenceforward in the financing of government expenditures, which have been running heavily in excess of ordinary revenues in recent years. This procedure played an important part in our economic recovery. Should there be fresh demand for funds for business and industrial purposes, money thus disbursed by the Bank will remain in circulation; only the surplus which is not so required will be left with and accumulate in the banks as idle money, and may be withdrawn from the market through the purchase of government bonds by the Bank of Japan. In fact, the disbursement of government money supplied by the Bank of Japan and the absorption of redundant funds off the market through sales of government bonds in the Bank's holdings operated in the same manner as the extension and contraction of loans in regulating the supply of currency.

Despite the issue, thus far, of the huge amount of ¥3,300 million of government bonds for balancing the budget, which were taken up by the Bank, currency inflation was averted, as by far the greater part thereof had been purchased ultimately through the investment of funds accumulated in the financial institutions, largely representing the people's savings. The actual expansion in the note circulation was kept within the reasonable bounds of ¥200 million to ¥300 million, an increase which may be regarded as in keeping with the growth in general business activity.

The easing of the money situation paved the way for lower money rates. Our industries had formerly been handicapped by high money rates, the weight of which was keenly felt, especially during the recent business reaction. The condition required a substantial reduction of interest charges all around. Now that the continual flow of government loan proceeds kept banking resources plentiful, and as the Foreign Exchange Control laws of July, 1932, and March, 1933, imposed an effective check on the flight of capital, the downward movement of money rates was greatly accelerated. The Bank of Japan lowered its official rates on successive occasions from March, 1932, to April, 1936, the discount rate on commercial paper being reduced from 6.57 per cent to 3.29 per cent. The raising, in June, 1932, of the normal limit of fiduciary issue of the Bank of Japan notes from ¥120 million to ¥1,000 million, with a decrease in the minimum rate of the tax on the excess issues from 5 per cent to 3 per cent, facilitated the great reduction in rates. The interest on government loans was also lowered by degrees from 5 per cent to 3½ per cent and that on postal savings from 4.2 per cent to 3 per cent. A period of unprecedentedly cheap money was ushered in. Not only did the interest rates on bank deposits decline, but, with it, loan rates in general, resulting in a substantial saving of interest charges to the benefit of borrowers.

As might be expected, the suspension of gold payments had as its immediate effect a violent fall in the exchange value of the yen. In little more than two weeks following suspension, the exchange on New York dropped from $49.375 to $34.50, and by the end of November, 1932, it was even feared that the rate might fall below $20.00. The exchange on London, which at one time after Great Britain went off gold was quoted at 3s ¼d per one yen, declined to 1s 2⅞d in terms of the depreciated sterling at the close of 1932. The uncertainties over our international relations in connection with the Manchurian affair as well as fears of a currency inflation had much to do with this depreciation. Moreover, the sales of forward exchange contracted before the reimposition of the gold embargo had now to be met by the purchase of exchange. We had a hard and costly experience of what it is to keep the exchange too high; but, when our exchange rates began to fall sharply, it was recognized on all sides that too heavy a fall must be guarded against to maintain the credit of the currency. Taking lessons from our past experience, we were chary of artificially propping up the exchange rates. With our gold holdings depleted, and support in the form of foreign loans no longer forthcoming, the yen had to be left to find a level to be determined by the condition of international payments. But, far from purposely depressing our exchange rates, everything was done to uphold confidence in our currency and to prevent its depreciation as a result of speculative attacks. With a view to exercizing a rigid control over the outflow of capital and speculative dealings in foreign exchange, the Foreign Exchange Control laws referred to above were enacted. The measures actually adopted for exchange control were of a mild nature; but a declaration by the Government in November, 1932, that it was determined to enforce drastic measures in case of need proved decisive. If the initial break in the exchange was phenomenal, the fact that the rate has since been relatively stable at a new level is equally notable—the rate on London being quoted at 1s 2d., and that on New York at about $28 in terms of the devalued dollar. The explanation for this may, in part, be found in the repatriation of the capital which had fled from the country before we went off gold again, and in a marked improvement in the balance of international indebtedness as a result of the advance made by our export trade.

The decline in the exchanges operated as a stimulus to our export trade, because there had not been a proportionate increase in internal prices. Indeed, prices, after having recovered from the exceedingly low levels to which they had sunk in the worst period of the depression, remained remarkably stable since 1933. If they have taken an upward turn in the last twelve months, they are still far from the level obtaining prior to the return to gold, and there was no abnormal rise or violent fluctuation. That we were able to avoid currency inflation after the reimposition of the gold embargo is certainly one of the contributing factors in the relative stability of prices.

Yet, all in all, the great strides made by our export trade are fundamentally due to the fact that the productive capacity of the nation was improved during the period of depression, making available a supply of goods at low cost. Our industries, as mentioned before, went through the ordeal of severe financial deflation and readjustment, especially in the three years before and after the lifting of the gold embargo, and when, under the stimulus of a low exchange and cheap money, occasion arose for the advance of our goods to foreign markets, we were fully prepared to make the most of it. New manufactures were turned out, new markets were found, and our export trade continued to expand. The result was a material improvement in our trade balance, though the value of imports also tended to rise, because of the fall in our exchange rates.

Along with the thriving export industries, high prices of imported goods had the effect of encouraging the manufacture of substitute articles at home, while the increasing new demand for chemicals and heavy products gave a powerful impetus to activity of the related industries. Hence a marked betterment in conditions on every side. Statistical evidence indicates, among other things, an increase of some 30 per cent in the people's savings accumulated in various financial institutions, a 50 per cent increase in the output of staple manufactures, the doubling of the value of exports, and a gain of some 40 per cent each in the National Railway freight traffic, bank clearings, and factory employment. This is not to say that the improvement has been universal and evenly distributed, and that the benefits of economic recovery have been shared by all classes of the people. But even in the rural communities, where crop failures and low agricultural prices had combined to add to the distress, conditions have to some extent been ameliorated, thanks to the subsequent rally in the prices of cocoons and other farm products.

All things considered, the operation of the monetary policy since the country went off gold has so far worked satisfactorily on the whole, and it has contributed in no small measure to the nation's economic recovery and progress which characterizes this period. But this success could not have been achieved had not the confidence of the public in our currency been assured. As that confidence has remained unshaken, the accumulated capital resources of the financial institutions in the form of the people's savings continued to grow, which in turn made possible the satisfactory distribution of government bonds as well as industrial development. Then too, as mentioned before, we have also been favored by a high productive capacity. If production could not keep pace with the increase in consumers' demand stimulated by the injection of increased supplies of money, a rise in prices would certainly result. So long as there is a high potential productive capacity the supply of goods may be increased to catch up with the increased demand, and high prices will not necessarily follow, but only augmented production and expansion in business transactions.

Although the country is off the gold standard, as most countries of the world are, it has always been the chief concern of the Bank of Japan to maintain the credit of, and ensure confidence in, our currency by putting a check on monetary inflation. The strengthening of the gold reserve now steadily going on through purchases of the metal coming from our home mines under the Gold Purchase Law enacted in April, 1934, may be expected to work towards the same end. This at the same time is a manifestation of the will to prepare for the rehabilitation of the currency system when national and international conditions are ripe for it.

AUSTRALIA

AUSTRALIAN MONETARY POLICY IN THE DEPRESSION, 1930-1933

By DOUGLAS B. COPLAND

THE Australian economy is simple, though it is highly vulnerable to adverse economic conditions abroad. This was demonstrated with startling result at the onset of the great depression that struck the world in 1930. It had already begun to show its devastating effects in Australia in 1929. The two influences that would cause adversity in Australia were already in operation. Export prices had commenced to fall, particularly the price of wool, and long-term borrowing on the London market had come to an abrupt end. Australia had been borrowing at the rate of about £30 million per annum for governmental purposes, and in the years 1924 to 1929 inclusive, the country had taken 37,000 immigrants per annum under an immigration scheme jointly operated by Great Britain and Australia. For a time in 1929 and 1930, it was possible to supplant long-term borrowing by the issue of treasury bills in London on Australian account. By the middle of 1931, the short-term debt in London had mounted to the alarming total of £stg33 million,[1] and even short-term borrowing overseas was then stopped. Meanwhile, the prices of exports continued to fall. By the end of 1930 they had reached in sterling a level only 50 per cent of the 1928 figure. In August,

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[1] Where British values are given I shall use the sign £stg, meaning one British pound. Other values are in Australian pounds.

1931, just prior to Great Britain's departure from the gold standard, they reached their lowest point in terms of sterling at 40 per cent of their 1928 level. The combined influence of the rapid and drastic fall in export prices and the sudden cessation in overseas borrowing was a staggering blow to the Australian economy. I shall not attempt here to describe the position in detail. It has been dealt with in several publications by Australian economists. It will suffice for me to make a summary statement of the problem that confronted the country at the end of 1930, when most other countries were just beginning to feel the impact of the depression.[2] The following are the important facts:

1. The balance of payments was heavily against the country, and there was a serious drain on available London cash reserves of the banking system, and the gold reserve in Australia. These combined reserves amounted in the middle of 1928 to an estimated sum of over £stg90 million. By the middle of 1931 they had fallen to an estimated sum of £stg30 million.

2. There was a rapid fall in national income from about £645 million in 1928-1929 to £430 million at the lowest point in 1931-1932. By 1930-1931, national income had already dropped to £460 million.

3. Unemployment rose rapidly from 9.3 per cent of trade-unionists to 25.8 per cent between the first quarter of 1929 and the corresponding quarter of 1931. It reached its high point at 30 per cent in the second quarter of 1932.

4. Government revenues declined rapidly. Expenditure could not be brought down in accordance with the fall in revenue, because it was necessary to provide appropriations for unemployment relief. The combined budget deficits of Commonwealth and

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[2] I have given a detailed account of the effects of the crisis in the Marshall Memorial Lectures, delivered at Cambridge University in 1933, and published in *Australia and the World Crisis*. See also Giblin, *Australia, 1930* and Walker, *Australia in the World Depression*, and the documents published by Shann and Copeland in *The Crisis in Australian Finance*.

State governments were £31 million in 1930-1931, and were estimated at £40 million for 1931-1932.

5. The public credit was deteriorating and by the beginning of 1931 it was impossible to raise loans on the Australian money market to meet the deficits of governments and necessary loan expenditure, which fell from over £40 million before the depression to less than £10 million in 1931. The only means of financing deficits and loans in 1931 was through credits obtained from the central bank. This caused fears of inflation unless the position were checked.

6. Finally, in export production there was a serious disparity between costs and prices, and a highly dangerous debt problem. The assets of many financial institutions were partially tied up in advances to export producers who were unable to meet their interest payments, and whose assets pledged against the debts were rapidly deteriorating. If the crisis became worse, a similar position would have arisen in urban properties, and a condition of general bankruptcy would then have threatened the financial structure.

All these developments were caused by the intense deflation that marked the early stages of the depression in Australia. This was natural for three reasons. First, the periodic depressions in Australia, caused by adverse seasons or falling export prices, had normally been met by reducing costs and withholding fresh bank advances, except for the purpose of maintaining the efficient producer on the land. Secondly, Australia had been severely criticized both at home and abroad for overborrowing, and for its unsound development of both primary and secondary industry. It was the view of many authorities that the financial condition in 1930 was caused by these mistaken policies, which could only be corrected by a rigorous policy of deflation. Thirdly, the full impact of the crisis had not been felt abroad, and there was little disposition in Australia to regard the local crisis as part of a world problem of unparalleled severity requiring quite special measures. Those who argued that these measures were necessary were contending against the strong current of opinion both at home and abroad. That they triumphed in the end is to be attributed as much to the impasse that was reached early in 1931, and to the great confusion in political policies, as to the inherent soundness of their arguments. A democracy does not readily listen to views that are unfamiliar and regarded as unorthodox, and will not adopt them until it is clear that other and better-known methods are ineffective. The authority of the economist is far from absolute in Australia or anywhere else. But in 1931 the Australian economists rendered their country important service, and their advice was taken at a critical moment in the crisis. It is the nature of this advice, the methods by which it was put into operation and the extent to which it promoted economic recovery, that I am concerned with in this chapter. Monetary policy was an important element in the proposals made and in the subsequent policy of the country. It is appropriate that the subject should be treated in a volume of essays dedicated to the eminent author of *The Purchasing Power of Money*, *Stabilizing the Dollar*, and other monetary works that dealt with the important problem of fluctuating prices and that greatly influenced some of the Australian economists. For the monetary and banking policy of Australia after 1930 was in part a confirmation of the view so ably expounded by Professor Irving Fisher for many years—that an alteration of the unit of currency would promote price stability. But monetary policy was part of a general plan and the circumstances of Australia were favorable to the success of this monetary policy.

At this point it is necessary to describe very briefly the monetary and banking system of Australia. Before the depression the unit of account was the Australian sovereign of the same weight and fineness as the British sovereign. The Australian pound was thus convertible at par into the pound sterling, and it was an article of faith in the banking world, as well as an unchallenged assumption among people at large, that Australian currency could not depart far or for long from parity with sterling. The banking system was well organized to maintain this parity. There are eight large banks in Australia with a big branch banking business. In normal times most of the exchange business is done through the banks by means of sight or time drafts on London. Before the depression direct exchange business with foreign countries was not a normal function of the banking system. Even during the War the Australian pound was kept at par with sterling, and any fluctuation in the rate between sterling and foreign currencies was automatically reflected in the rates quoted by Australian banks for doing business in foreign currencies through London. In addition to keeping large gold reserves in Australia, the Australian banks held substantial reserves in liquid balances in London and these reserves formed part of their cash. The London reserves, and to a less extent the gold held in Australia, fluctuated with changes in the excess of deposits over advances in the Australian banks. An increase in bank advances or a reduction of deposits in Australia would be caused by an unfavorable balance of payments, in turn caused usually by a bad season or low export prices. The decline in the excess of deposits over advances in these circumstances was accompanied by a decline in the London reserves of the banks and in the ratio of cash to deposits. This was the signal for a restrictive policy pending a return to better seasons or to higher export prices. The establishment of the Commonwealth Bank, and its steady but incomplete development towards a central bank in the years between the War and the depression, did not affect the fundamental working of this system.[3] It was a type of sterling-exchange standard, a modification of the gold exchange standard, the classical description of which is given in Mr. Keynes's second chapter of *Indian Currency and Finance.* There was little movement of gold to correct the exchanges; the banking system automatically made the correction. For short periods, when the balance of payments was favorable or unfavorable, the rates quoted for sterling deviated slightly from par for a short time. Bankers and the public alike assumed that parity with the pound sterling was the normal thing and they were right under the conditions that operated up to 1930. This fixed belief in parity was one of the chief difficulties that advocates of a flexible exchange rate met with in the crisis. Our trade and financial dealings with Great Britain were important, and parity of exchange facilitated these dealings. This was the argument of most bankers and all governments in the early days of the crisis. They confused parity of exchange with stability of exchange, and they thought that any departure from parity was a permanent departure from stability. Such a departure would greatly upset the normal trade dealings with Great Britain, increase the burden of interest on the national debt owed abroad, destroy the traditional basis of the currency, and throw open the door to inflation. All these views were quite natural when we realize the history of the Australian currency, the close financial nexus with Great Britain, and the intimate relationships between banking organization in Australia and our foreign-exchange transactions through London.

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[3] For a detailed description see Copland, *Credit and Currency Control* and Mills and Walker, *Money*.

Before dealing with the departure of the Australian pound from parity with sterling during the depression, and its effects upon the Australian economy, a word on the special position of the Commonwealth Bank is called for. This bank is a state bank in the sense in which the word "state" is normally used in unitary states. It is publicly owned and was set up by the Commonwealth Government in 1911. It developed rapidly and during the War its growth was encouraged by the heavy financial operations of the Government, for which it was banker. In addition to its government business it undertook a small amount of ordinary banking business in competition with the trading banks, and it had a growing savings bank department. In 1910 the Commonwealth Government had taken over the note issue from the trading banks and placed it under the control of the Treasury. Important changes were made in the functions and management of the Commonwealth Bank by legislation in 1924. The Bank was given control of the note issue; it was empowered to raise capital to the amount of £10,000,000; it was placed under the Board of Directors representing the Government and certain economic and financial interests; and it was given some of the powers of a central bank. When the crisis developed the Bank had, to a considerable extent, withdrawn from active competition with the trading banks in ordinary business; it had separated its savings bank business from its ordinary business; and it had improved its standing in the financial fabric of Australia. But it was far from possessing the complete powers of a central bank. It did not control the foreign-exchange reserves of the banking system or the gold reserves in Australia; it was not able to enforce upon the trading banks any banking policy that it thought urgent at the time; and it had not developed control over the cash reserves of the trading banks through its credit operation. But it was looked upon as the central bank in the crisis, and its position as a central bank was greatly strengthened by both legislation and the exigencies of the crisis.

At the end of 1929 legislation was passed giving the Bank control of the gold reserves held by the trading banks for use in meeting government obligations overseas. Gold could no longer be freely exported and Australia formally departed from the gold standard at that time. The Commonwealth Bank was anxious to maintain parity with sterling, and even after the legislation of December, 1929, it declared in its half-yearly report that any departure from the gold standard was to be avoided. The depreciation of the Australian pound by about 8 per cent at the end of 1930 was not the result of the belief of the Bank in the virtues of depreciation. In spite of the efforts of the Bank to maintain parity against a serious drain on the gold reserves in Australia and banking balances held in London, the exchange rate rose steadily. The Bank was still required by the Act of 1924 to hold 25 per cent gold reserve in Australia against the note issue and to convert notes into gold at the head office of the Bank in Sydney. The notes in circulation carried the promise of conversion, but the promise was a dead letter long before the end of 1930. In 1932 the legal obligation to convert the notes into gold was abandoned by an amendment to the Bank Act, and the present note issue contains no such obligation. Legally the Australian note issue is inconvertible. In practice it is convertible into sterling at rates declared by the Commonwealth Bank, which undertook in December, 1931, to buy and sell exchange at rates to be fixed weekly by it. As we shall see later, the rate was fixed at £125 Australian to £stg100 in December, 1931, and has remained at this rate since that time. The Australian monetary system is thus more than ever a sterling-exchange standard.[4]

With this brief account of the features of the Australian banking system relevant to our purpose, we may proceed to consider the policy adopted by Australia to overcome her difficulties in

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[4] For a more detailed account of the history of the Commonwealth Bank, see Copland, *Credit and Currency Control,* Chap. II. The changes made in the Bank Act in the crisis are described in *Australia in the World Crisis,* pp. 83-87. It is to be noted that the legislative changes gave the Bank slightly more control of the credit and banking system while slightly relaxing the conditions imposed upon it by statute. The Bank was, apart from the Bank of England, less restricted in action by its charter than any other central bank, and it was probably as successful in developing a policy appropriate to conditions in an acute depression as any central bank. Sound administration in central banking is much more important than a rigid charter. Much more information upon the working of the Bank and the banking system as a whole will be available soon, when the Royal Commission on Banking in Australia appointed in 1935 issues its report.

1931. Deflation had been pursued with unremitting zeal throughout 1930, though it must be recalled that the London reserves and the gold held by the banking system were both used freely to meet national obligations abroad. This is what a reserve is built up for, and the use of the reserve blunted the edge of the deflationary axe. It was further blunted by the unwillingness of governments to cut costs too severely at the beginning of the depression. The basic wage declared by the Commonwealth Arbitration Court which applied to about half the wage earners, automatically fell with the quarterly decline in the cost of living, and in some States the wage-fixing tribunals tended to follow the lead of the Commonwealth. The chief exception was the largest industrial State, New South Wales. The reduction in export income and the decline in overseas borrowing, accompanied as it was by a rapid decrease in government loan expenditure, soon made heavy inroads into the national income. There was at the same time a heavy fall in private investment in housing and other projects. All this made for a serious loss of national income, and it was on this loss of national income that the Australian economists concentrated attention. They argued that the supreme act of economic statesmanship was to stop the *monetary* loss of income. Whatever was done there would be a loss of *real* income caused by the adverse terms of trade and the cessation of public borrowing abroad. This loss inevitably involved some loss of real income in terms of wages and salaries. Hence whatever the future level of prices might be, some reduction of money incomes, in addition to the adjustment of these incomes to the fall in the cost of living, was necessary. Thus it was argued that a cut in the basic wage in addition to the cost of living adjustment was required.

This was deflation, but the suggestion that real wages should be reduced is to be considered in its setting. It was accompanied by proposals for currency depreciation and credit expansion that would stop the monetary loss and promote stability of the price level. The peculiar conditions of the crisis demanded a reduction of real wages, even though monetary action was taken to stop the ravages of deflation. The case for the cut in real wages was as follows. First, there was the loss of real income that had to be shared among all classes if rapid recovery was to be promoted. The cut proposed was also a cut in money wages, suggested because it was thought that an adjustment on a purely monetary basis was impracticable. The depreciation of the currency required would have been much greater than either public opinion or the dominant business view would have understood or tolerated. Moreover, to have made the adjustment by monetary action would have required a suspension of the practice written into arbitration court awards that wages should vary with changes in the cost of living. It was better on psychological grounds to make a direct cut in the wage. This was done by the amount of 10 per cent in January, 1931, after a long inquiry by the Court. The basic wage had already fallen 10 per cent below the 1928 standard. This made a reduction of 20 per cent in all by the first quarter of 1931. With the continued fall in the cost of living the basic wage fell to 70 per cent of the 1928 standard by the first quarter of 1933. This was perhaps too drastic a fall, and suggests that the monetary action taken was not sufficient to arrest fully the deflation. But the cut of 10 per cent on account of the loss of real income, and even a further cut on purely monetary grounds, can be justified in theory under Australian conditions. The argument is that the reduction in wages was passed on sooner or later in a direct and indirect reduction in the costs of production of the export producer. The loss of income to him was thus shared by others, and the margin between costs and prices in export production reduced. Moreover, the cost of production for new capital expansion was reduced and secondary industries competing with imports experienced beneficial reductions in costs. Thus a substantial reduction in wages evenly and quickly applied could be carried out without setting in motion a vicious circle of deflation to which Mr. Keynes has drawn attention.[5]

But the cut could not be continued to the point at which complete economic adjustment was possible on parity with sterling, much less on parity with gold. The deflation required for such a policy would have been disastrous to social institutions as well as ruinous to the financial structure. We need not labor the point now, though in 1930 and 1931 it was necessary to argue it vigorously. In some cases the exponents of rigorous deflation were representative of financial institutions, the interests of which would have been most adversely affected by a continuance of falling prices and costs. For the assets which their debtors had pledged against loans were rapidly becoming substantially less than the money value of the debt itself. The experience of the United States in 1932 should provide conclusive evidence on the point. It was imperative in Australia that action should be taken to check the fall in prices, to prevent a further decline in the money value of the assets of financial institutions and to stop the downward movement of national income. As early as April, 1930, some economists argued that the currency should be depreciated as the best remedy for meeting the worst difficulties of deflation. As time went on, the argument grew more powerful, because the conditions that the depreciation of the currency was designed to remedy became more intense. By September, 1930, when the prospects of heavy deficits in the budgets were becoming alarming, a Committee of three economists were asked by the Commonwealth Treasurer to recommend a course of action.

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[5] For an account of the alternative courses of deflation and inflation, see *Australia in the World Crisis*, Chap. III, and Walker, *Australia in the World Depression*. The case of a wage cut as the main instrument of deflation without any inflationary measures is quite different from the comprehensive deflation, but with well-defined limits, carried out in Australia. I have called the Australian policy "constructive deflation"—*Australia in the World Crisis*, pp. 136-139.

This was the first occasion on which economists gave official advice, and it is worth while recalling the nature of the advice given.[6] It was a middle course between the extreme deflationary and inflationary courses suggested by financial and political interests, and it was based on the assumption that a loss of real income was inevitable. It was important that this loss of income should be kept as low as possible in terms of money, and that it should be distributed quickly and evenly over all classes of the community. This was sound economics as well as elementary social justice. Every step taken to distribute the loss of income took a burden off the export producer, lowered his costs, increased the volume of goods he could buy from domestic industry, reduced unemployment, reduced the deficit between revenue and expenditure in the budgets, increased the volume of domestic production competing with imports, and helped to adjust the trade balance. It will be observed that the approach to a solution here was not by means of a direct attack through monetary policy. The proposals made followed from a careful analysis of the structure of production as it was affected by the crisis, and the policy was on the whole one that would correct any distortions in the structure caused by the crisis. Monetary policy must not be regarded as the beginning and end of economic policy. It is an aid, and sometimes a very valuable and indispensable aid, to sound economic action. It was so in Australia in 1930. Monetary policy was a prominent feature of the proposals of the economists from the very first. The details of the September, 1930, recommendations were as follows:

1. A depreciation of the currency sufficient to restore real income in export industries to 10 per cent of its former level.
2. A reduction in real wages of 10 per cent.

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[6] The nature of this advice is examined in *Australia and the World Crisis*, pp. 68-72. For a fuller statement of the proposals, see Copland, Giblin and Wood, article on *The Restoration of Economic Equilibrium*, in the *Economic Record*, November, 1930.

3. A general reduction in real government salaries and wages and expenditure of 10 per cent.

4. A supertax of 10 per cent on income from property.

5. An expansionist monetary policy based upon the purchase of Government securities by the Commonwealth Bank with a view to maintaining the general level of prices as measured by the retail index number.

In retrospect two criticisms of this policy may be made. First, it was impossible to sustain internal prices, as defined, without a much greater rise in exchange than was perhaps prudent at the time. In the Memorandum of September, 1930, 20 per cent was suggested "as the maximum rate required and further consideration should be given to the exact figure." The rate rose to 30 per cent on sterling in January, 1931, and to 80 per cent on gold at the end of 1932. The Wallace Bruce Committee, composed of four economists and two businessmen, appointed in April, 1932, to make a Preliminary Survey of the Economic Problem for a Premiers' Conference, suggested as an element in "a middle course" between continued deflation and further depreciation of the currency, an increase in the exchange rate, which was then 25 per cent on sterling and 62 per cent on gold.[7] With sterling off gold, an exchange rate as high as 80 per cent on gold did not occasion any alarm. A rate of 50 per cent on sterling would, however, have caused misgivings, and the continued fall in export prices in the season 1930-1931 would have required a rate of this magnitude to have made successful "the middle course" on the lines suggested above. The second criticism relates to the suggested supertax on income from property. This could not reduce fixed charges, but might actually have increased them, though it would exact a contribution from this income element. Later, when the economic and budgetary situation had become much more serious, a direct reduction of interest was suggested.[8]

As it happened the depreciation of the currency came about because of the extreme difficulties of obtaining London funds in

[7] This report is reproduced in Shann and Copland, *The Australian Price Structure.*

[8] Report of the Copland Committee, May, 1931. This extract is taken from *Australia in the World Crisis,* pp. 66-68.

1930, when the balance of payments was heavily adverse. The banks, with the exception of the largest bank in the country, the Bank of New South Wales, endeavored to peg the currency at a rate above its real value. A black market developed in which the exchange rate steadily rose to £A115 for £stg100 at the end of 1930, when the official bank rate was £A109.5. The Bank of New South Wales took independent action by quoting £118.5 in January, 1931, and the rate then rapidly rose to £130 by the beginning of February. With the depreciation of the currency the fall in export prices in Australian currency stopped, though there were minor fluctuations. In January, 1931, the export price index number was 51 per cent of the 1928 level in Australian currency. It fluctuated around 55 per cent until the middle of 1933, when a strong rise in wool prices lifted it to 72 per cent of the 1928 level for the year 1933-1934. During 1931 and 1932 prices continued to fall in terms of gold, and by the beginning of 1933, when the United States went off gold, they had reached the desperate position of 30 per cent of 1928 prices. At that time they were 55 per cent in Australian currency. Australia had taken almost full advantage of the depreciation of sterling that commenced in September, 1931. After Great Britain suspended the gold standard, the strain on the Australian balance of payments had eased, thanks to low imports and the return of confidence following the adoption in June, 1931, of the Premiers' Plan. With the opening of the export season in October, 1931, there was some doubt as to whether an exchange rate of £A130 was justifiable. No mechanism had been established in place of the gold standard to give stability to the rate. A solution was found in the action of the Commonwealth Bank buying and selling London funds at a rate to be determined by it. The rate announced on December 2 was £A125 to £stg100, and this rate has been maintained since that time. By dropping the rate slightly, the Bank gave the impression that it was able to control the position and to check any further depreciation of the currency. Capital began to return and when the rise in export prices took place in 1933-1934, giving a surplus in the balance of trade of £stg37 millions, there was also a substantial import of capital. This in turn gave an impetus to local industry. Thus what appeared at the time to be an act of deflation turned out to have strong expansionist tendencies. The Bank gave no explanation of the drop in the exchange rate made when it assumed control of the exchange. Perhaps we may regard it as a typical act of a central bank at a time when the object of central bank policy was to maintain currencies at as high a level as possible. It was certainly sound policy.

For over five years the Australian pound has been heavily depreciated on its old gold parity.[9] This was in fact an alteration of the unit of currency, which at present in Australia is the paper pound not legally convertible into gold or any currency, but in fact convertible into sterling at a depreciation of 20 per cent. We have come to regard this level as stable, but no official pronouncement has been made as to the future of the Australian pound, apart from an important reference in the Commonwealth Treasurer's budget for 1933. The relevant passage was as follows:

> It is clear that it will not suit Australia, as a debtor country, for sterling to be overvalued when the time comes to link up again with gold. Whatever the United Kingdom may decide to do in this respect, it is important that we should retain our own right to fix our monetary unit at the point which is consistent with our own price level at the appropriate time.[10]

There can be no doubt that the depreciation of the Australian pound played an important part in meeting the difficulties caused by the depression. We have seen that it gave the country a higher local price for exports than would have been possible under sterling or the gold standard. The proportion of exports to national income before the depression was about 22 per cent. With the fall in prices and the increase in local manufacturing enterprise, the proportion fell during the depression. But taking a long view, and bearing in mind that the standard of living tends to reach a common level in all occupations and industries, the ratio could not be expected to fall below 20 per cent. If, therefore, the value of exports in local currency were kept up by depreciating the currency, it follows that the money value of the national income would also be sustained at a level higher than was possible without depreciation. Depreciation was a device for securing adjustment of the economy to depression conditions without incurring a heavy and needless reduction of money income. This is in accordance with general theory and needs no elaboration here. But there are two points that demand brief mention.

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[9] For the past two years the depreciation has been a little more than 50 per cent.

[10] Treasurer's budget speech, September, 1933.

First, the act of depreciation was forced upon Australia by the grave difficulties of 1930. It was the only method by which the disastrous effects of deflation upon the Australian economy could be met. The policy was not pursued to an extreme point, and no effort was made to maneuver the Australian pound into a position of undervaluation. True, it was for a time undervalued in relation to the dollar before the United States went off gold, and in relation to the currencies of the gold bloc. If we accept as the test of undervaluation the relationship of costs and prices in export production, the Australian currency was far from undervalued during the period of controversy over the level of international currencies. From 1929 to 1936, the highest level of export prices in Australian currency was 72 per cent of the 1928 figure, and most of the time export prices were below 65 per cent of their 1928 level. Costs had fallen meanwhile by between 20 and 25 per cent, even after a dose of severe deflation of all costs, including fixed charges. It must also be remembered that the terms of trade and the flow of invisibles in the balance of payments had been fundamentally altered to the disadvantage of Australia by the depression. Purchasing power parity had altered and there is a strong case for the permanent stabilization of the Australian currency at a level in sterling substantially below that of 1929.[11]

Second, we must consider the argument that the depreciation of the Australian pound caused further deflation abroad and forced other countries to take similar measures. I shall not enter into a discussion of the desirability or otherwise of a general depreciation of currencies. It has now happened and the world is set for recovery at new currency levels after a period of hesitancy and disturbance. The critics of depreciation deplore the race for currency depreciation set up amongst the nations as disturbing to world trade and paralyzing to the internal economy of countries that do not take the step. What is the alternative to *competitive currency depreciation?* Surely, *competitive economic deflation,* though slower in operation, is much more disastrous than competitive currency depreciation, because it accepts the fact of a lower price level and an increase in the value of the unit of currency. Thus it adds to the difficulties of adjustment by lengthening the process and creating a new problem of debt adjustment. There is some ground in both experience and theory for the view that the inherent tendency of capitalistic economies is to create too large a volume of debt at too high a rate of interest. It is difficult to avoid a serious problem of debt adjustment unless prices rise continuously, and currencies are depreciated in terms of the international standard, when the commodity selected for that standard is not being produced in sufficient quantities to permit a rise in prices. A primary producing country with a heavy proportion of fixed interest-bearing debt cannot enter lightly into a course that will cut in half the prices of its leading products. The debt problem is much too difficult of adjustment on this basis without a serious financial disturbance.

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[11] The tests of undervaluation and overvaluation of currencies during a violent change in prices and costs and an important alteration in the balance of payments require further examination by students of monetary theory. I have offered some observations on this problem in "The Stabilisation of Sterling," Supplement to the *Economic Record,* October, 1932.

As to the general charge that the depreciation of the Australian currency was an act that promoted competitive currency depreciation, I shall quote again from what I wrote on the matter in 1933, when giving reasons for not regarding competitive currency depreciation as applicable to Australian policy.

> (a) Australia entered the depression earlier, at a time when the international gold standard was still firmly established. The depreciation of Australian currency could not have greatly affected the gold price level of the leading exports of Australia.
>
> (b) The argument presupposes that deflation as a policy is in operation in the outside world. If this be the case any national policy will be accompanied by a fall in the international export price level, not because of the effects of the national policy, but because the forces of deflation abroad are in the ascendancy.
>
> (c) A currency depreciation in Australia was not proposed as the only method of escape from the crisis, nor was it put into operation as an isolated policy. . . . The Australian policy had a positive aspect which, if in operation in all other countries, would have checked the international deflation and prevented the monetary disasters of the past two years.
>
> (d) In any case competitive currency depreciation could not have maintained the old relationships among currencies. The ratios of international exchange were upset by the conditions of the crisis, and whatever currency policy might be followed the new rates of exchange would be different from the old. In the case of Australia, the adverse terms of trade and the reduction in borrowing seriously upset the ratio of international exchange and necessitated a depreciation of Australian currency relative to sterling.
>
> (e) Finally, we must not ignore the fact that heavy depreciation of currencies increases the currency value of gold and thus strengthens

the hands of central banks possessing gold stocks. This would not happen under what I have called competitive economic deflation.[12]

The other aspect of banking and monetary policy in Australia in recent years that is of special interest is the positive aspect referred to above in the third reason given for not regarding competitive currency depreciation as applicable to Australia. Largely by force of circumstances, as in the case of depreciation of the currency, an expansionist monetary policy was adopted by Australia in 1931. Under the Premier's Plan a general cut in government expenditure of 20 per cent was made. "Adjustable expenditure" included all government expenditure other than interest on the national debt, the exchange charge for that interest, and the cost of relieving unemployment. Adjustable expenditure amounted to approximately two-thirds of total expenditure, but even with the cut of 20 per cent the deficit in the budget was so large that some action was required to reduce the balance. This was taken in the conversion of the internal debt of £522 million from a rate of interest of 5¼ per cent to 4 per cent, involving gross savings of £6 million. This not only reduced the outgo on interest, but it helped toward distributing the loss of income and justifying the heavy reductions made in wages and salaries and other government payments. Even with those economies there was a prospective deficit of £13 million to £15 million, for the year 1931-1932, when the Premiers' Plan was adopted in June, 1931. Loan expenditure had fallen from over £40 million, before the depression to £18 million in 1930-1931, and still further to £6.3 million in 1931-1932. Finally, there was a floating debt of £stg38 million in London that had to be met at a time when long-term borrowing in London was impossible, and the balance of payments was heavily adverse to Australia. It was necessary to meet from Australian sources these claims for the external floating debt, the deficits and the loan expenditure, and for over two years the Australian money market was disorganized and unable to absorb any long-term government loans for new expenditure. The necessary funds were provided from two sources: first, the accumulated London balances of the banks, especially the Commonwealth Bank, and the Australian gold reserves of the banks. These reserves were used to pay off the London holders of the floating debt, which was transferred to the extent of £30 million to the Commonwealth Bank and liquidated to the extent of £stg4 million. Gold to the value of approximately £22 million was taken from the reserves of the trading banks by the middle of 1932, while the Commonwealth Bank had surrendered £12 million. To this extent the floating debt had been created by the use of assets that were held to meet an emergency. Some banking reserves in London were also absorbed in the floating debt, but it is impossible to disentangle the use of these reserves for this purpose and for ordinary trade transactions. The following table shows the increase in the floating debt from 1930 to 1933:

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[12] *Australia in the World Crisis*, pp. 106-107.

AUSTRALIAN SHORT-TERM DEBT

Maturing in

JUNE 30	LONDON	AUSTRALIA
	£stg millions	*£A millions*
1930	5.0	2.3
1931	33.1	20.6
1932	37.3	45.0
1933	34.1	48.9

Only minor changes have taken place since 1933. After 1933 the Commonwealth Bank held approximately £stg30 million maturing in London, and there was another amount of £stg4 million held by a London bank. We have seen that £36 million of gold reserves were used by the middle of 1932, and some sterling assets of the banks were also absorbed on government account. The floating debt in London was £stg34 million. Hence part of the internal floating debt was created against assets in gold or liquid reserves in London. But the whole of the internal floating debt of £49 million could not be met in this way. Not more than £20 million could have been available. There were about £stg95 million of gold and London reserves in the banking system before the crisis. By the middle of 1931, the gold in Australia, and the banking reserves in London, had fallen to below £stg30 million. Thus £stg65 million had been used. If we assume that this was absorbed to the extent of £stg30 million for the amount of the London short-term debt held by the Commonwealth Bank, and another £20 million for the internal short-term debt, there is only £15 million left for ordinary trade transactions. This is probably too low an estimate of the amount used for trade, but it will rather strengthen the argument that follows if we take a conservative estimate of this figure. The short-term debt in Australia took the form of treasury bills issued by the Commonwealth Bank at the request of the Australian Loan Council. On June 30, 1933, there were £49 million of these bills. Of these a maximum of £stg20 million or £25 million were issued against assets in the banking system. The remaining £24 million were a direct expansion of credit by the Commonwealth Bank. This was, of course, inflationary finance, and may be regarded as taking the place of the purchase of government securities urged by the economists who reported to the government in September 1930. But it had rather more beneficial effects than the ordinary open-market purchases of a central bank. For in addition to increasing the supply of money on the market, easing the banking situation, and lowering the rate of interest, the credit created was used to sustain income through normal government expenditure and to provide a minimum program of loan expenditure. It was the positive part of monetary policy, and it was carried out at a time when the adoption of the Premiers' Plan and the control of the exchange rate through the Commonwealth Bank had restored confidence in the financial structure. Australia thus got the full advantage of currency depreciation and an expansive monetary policy. All the psychological conditions were then favorable to recovery. A change of government had taken place at the end of 1931, a Labor Administration having been replaced by one of less radical tendencies. The orthodox elements of the Premiers' Plan had been stressed at home and abroad, and there was such confidence in the Chairman of the Commonwealth Bank (Sir Robert Gibson) that it was possible for the Bank to pursue a policy of mild inflation in the name of orthodox finance.

The success of the policy lay in its moderation. No substantial change took place in the total of the floating debt after June, 1932. The need for inflationary finance had ceased by that time, and the money market was ready to supply by normal loan operations the funds required to finance deficits and loan programs. By September, 1932, the converted Australian 4 per cent stock had reached par, and there was a demand on the part of the Bank for a funding operation. The Bank was ready to slip back into orthodox finance at the first opportunity. The proposal was strenuously opposed in the Loan Council by the Premier of New South Wales, who was supported in banking circles by the powerful Bank of New South Wales. The ground of opposition was that any sudden funding operation would destroy many of the advantages of the mild inflationary policy that had been pursued up to the middle of 1932. It was argued that circumstances were favorable to cheap money, and that this would bring increased private investment as well as an increase in government loan expenditure at low rates of interest. As usual in these matters, a satisfactory compromise was reached under which a loan of £8 million was issued at 3¾ per cent, of which half was used to meet loan expenditure and half for funding treasury bills required for deficits for the year 1932-1933. From that time both loan works and deficits were financed in this way and the rate of interest came down to 3 per cent for government borrowing in November, 1934, when the largest post-depression loan (£15 million) was oversubscribed. Money rates commenced to rise in 1935, when recovery was already well established.

I shall not carry the story further. Recovery brought its financial and monetary problems not less than depression, and Australia in 1935 was experiencing the same difficulties of continuing her monetary policy as all countries in the sterling area, where internal expansion had taken place in anticipation of a rise in export prices. The difficulties were to some extent increased in Australia by the lowering of tariffs that took place from 1933 to 1935. This was on the whole a sound policy and was in contrast to the tariff policy of most other countries at the time. Imports were recovering with the increased spending power accompanying recovery, and by 1935-1936 they had risen to £stg. 82 million. A further difficulty was the recession in export prices that took place in 1934-1935, when wool prices fell again to 9.75d. per lb. on the average in Australian currency, and the export price index was only 60 per cent of the 1928 level in Australian currency, or less than 50 per cent in sterling. This recession in export prices, more than any other single factor, caused some doubts as to the possibility of continuing the policy of expansion without a further depreciation of the currency. There naturally was strong opposition in Australia to further depreciation, but fortunately in the end this issue did not have to be faced. To have accomplished so much towards full employment and an expansion of the national income in the face of a sudden termination of public overseas borrowing and a cut in the sterling value of exports of between 50 and 60 per cent was no mean achievement. National income had recovered to £520 million by 1934-1935. Its maximum level before the depression was £650 million and if we allow for a decline in costs and prices of the order of 20 per cent, the real value of national income in 1934-1935 had returned to the predepression level. There had been an increase in the working population of about 6 per cent, so that real income per head had fallen by about 6 per cent. Given a moderate rise in export prices, the policy would be wholly successful, because the increased value of exports would yield a favorable balance of payments, increase banking balances in London, and ease the banking system in Australia. The rise in export prices is now taking place, and at the time of writing (January, 1937) they have reached the 1928 level in Australian currency, and approximately 80 per cent of that level in sterling. The next problem for financial authorities in Australia is the method of controlling internal expansion to prevent the development of unhealthy capital expenditure and credit expansion. And this problem will test economic statesmanship more severely than did the problem of checking deflation and promoting recovery.

What now are the lessons to be learned from this experiment in economic policy in a depression? We may assume in the first place that, in a country so heavily dependent upon export production of primary products and government expenditure as Australia, there is scope for the successful use of monetary and banking policy as a means of relieving the stress caused by a crisis originating in the world's money markets. This policy consists in depreciating the currency to limit the fall of prices in local currency and the loss of money income, and in expanding credit to finance government deficits and a minimum program of loan expenditure. There is no quick remedy for the loss of real income caused by the unfavorable terms of trade and the cessation of overseas borrowing. But monetary and banking policy alone is not enough. The impact of the crisis on the structure of production must be considered, as well as the effects on public opinion of a vigorous monetary policy. The success of the Australian experiment lay in part in the careful attention given to both these limiting influences on monetary policy as a complete solution. The all-round reductions in costs, the careful attention given to export production so that it might expand, and the fostering of efficient secondary production competing with imports were integral parts of the policy of recovery. They were all necessary to provide the conditions in which the structure of production could be quickly adjusted to the altered conditions caused by the depression, and to afford a basis of moderate deflation in which the expansionist policy and the depreciation of the currency could give the best results. Finally, both depreciation and expansion of credit were limited to the needs of the situation. When they had been pursued to the point at which they had given relief, action was taken to show that the authorities were anxious to prevent any tendency towards extreme developments. This was one of the virtues of conservatism in the Commonwealth Bank. As regards currency depreciation, Australia was fortunate in her traditional currency relationship with Great Britain. As sterling depreciated it carried the Australian pound along with it, without any action on the part of Australia. Thus the Australian pound went to below 50 per cent depreciation on gold, though the only definite action required by Australia was to depreciate it by 20 per cent on sterling. All these special circumstances must be considered in estimating the success of Australian policy and in applying it to countries in which conditions differ.

One other special local condition must be briefly mentioned. Australia was fortunate in having the Loan Council and the Commonwealth Bank as agencies for controlling financial and monetary policy. The Loan Council was established under the Financial Agreement of 1928 for the purpose of securing co-operation among the State governments in loan policy and borrowing operations. Under an amendment to the Constitution, in 1928, the Council has power to sanction all borrowing by governments. During the depression it became the agency through which co-operative action to limit deficits was taken and it was the channel through which discussions with the Commonwealth Bank were carried on. The Council was expansionist, while the Bank wished to impose checks upon expansion. The mutual influence of the one authority upon the other was in some respects a guarantee that both would pursue a policy of moderation. This is what happened. The Bank was able to secure action by the governments to reduce their deficits. The governments were able to obtain more credits from the Bank than it would have granted without insistent pressure. The work of the Loan Council and the Bank in public finance was happily supplemented by the policy of the Commonwealth Arbitration Court in regulating wages.[13] The practice of varying wages with the cost of living had been well established before the depression. The automatic adjustment caused a reduction of approximately 20 per cent in the basic wage by the middle of 1933, and there was, in addition, a cut in the real basic wage of 10 per cent ordered by the Court in January, 1931. Severe as they were, these reductions were made without industrial strife. The Court has partially restored the cut in the real wages, and with a rise in the cost of living, some upward adjustment in the basic wage on this account has been made. The working of this administrative machinery for controlling public finance, credit, and wages was important during the depression as a means of implementing a policy appropriate to the special difficulties of the time.

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[13] I have given a brief description of the working of this administrative machinery in Chap. IV of *Australia in the World Crisis*. A more detailed and authoritative statement of the Loan Council will be found in the Report of the Royal Commission on the Constitution, 1927; and of the Arbitration Court in Anderson, *The Fixation of Wages*.

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COLLECTIVE BEHAVIOR AND MONETARY POLICY

By ALEXANDER LOVEDAY

IN THE arts of life the majority of mankind learn more from experience than from theory. Tradition is the ladder of experience, climbed by each new generation and accepted, but not learnt. Where tradition is lacking, where tradition is rejected, we are apt to struggle with unreasoning, if valiant, energy and learn ultimately rather from the experience of trial and error than from the application of abstract doctrines to new circumstances or to familiar circumstances in unfamiliar combination.

In recent years tradition has largely failed us. Tradition in policy postulates tradition in collective behavior; and in fact collective behavior is widely different today from what it was thirty years ago. It is at once widely different and more various; the changes that have taken place have been more profound in some countries than in others. An international monetary system postulates either central control or unity of action in the various constituent parts of that system. Reasoned action is policy; policy is itself determined by probable collective behavior, and that probable collective behavior in its turn by past experience and past sufferings. During the last three decades the experience of different parts of the world has been not merely various, but in many cases wholly dissimilar. The facts that in the face of exceptionally difficult circumstances policies essentially diverse should have been adopted, the gold standard should have broken down, and the depression itself should have been accentuated by lack of unity of effort or objective are no accident, but are the natural, perhaps inevitable, consequences of this dissimilarity of past experience and this dissimilarity of prospective behavior.

The events of the last few years have furnished a wealth of evidence for testing the accuracy of monetary theory and judging the wisdom of monetary policy. But if the conclusions drawn from those tests and judgments are to be translated into precepts of any real value, they must take into account the probability of a variety of collective behavior in the future and the influence of that variety on national policy and on any international monetary system.

When the depression started in 1929 mankind had become for the first time almost universally gold standard conscious. But behind this general belief in a unique monetary standard, held frequently with the ardency and the bated doubt characteristic of the neophyte, lay the profoundest diversity of habit. The public in many parts of Europe had acquired a deep-rooted inflation phobia; they had passed in the early twenties of this century through a phase of despair about the utility of saving to a later phase of abject fear of investment; they had become hoarders or potential hoarders induced by every flutter in political confidence to convert their deposits into notes or, when they could, their notes into gold; they had learnt to look upon domestic currency and upon deposits so expressed as a form of wealth involving special personal and national risks, but as possessing at the same time the advantage over investment of liquidity; and from the city financier to the provincial shopkeeper, they had acquired a knowledge of the ways and means by which the personal, if not the national, risk might be circumvented. In other parts of the world, where the capitalists great and small had not been in the same way ruined by inflation, there was a parallel though less intense desire for liquidity and the spreading of risks—a desire which expressed itself at once in the conversion of private into joint-stock business and in the growing habit of investing in foreign securities.

All these and similar changes in custom, outlook, and the reaction of the individual to economic (and political) events profoundly and inevitably affected the policies pursued in different countries after 1929. These very habits and beliefs constituted in the aggregate forces which it was the function of policy to check or to direct.

The world had become gold standard conscious. It had just experienced or watched all the miseries of a society uprooted and debauched by inflation and all the difficulties of trading under conditions of exchange instability. At no time in history had so large a proportion of the monetary systems of the world been attached to gold as in 1928 or 1929; at no time previously had the attachment been so direct. The countries of Europe and the republics of South America had determined their parities and forged their links with gold; Guatemala, Honduras, Morocco, and Salvador had all abandoned the silver standard; the limping Latin monetary union remained buried in the debris of the War. The gold standard was looked upon as a bulwark—frail still, for its construction was not fully completed—but indispensable against the dangers of inflation and disorder. This one dominant belief gave rise at first and for a brief period to a certain fictitious unity of policy. It gave rise to the one universal preference in the early stages of the depression determining, if not the means, the objective of policy—a preference for the maintenance of the purchasing power of currencies over currencies or over gold, rather than the maintenance of an unchanged purchasing power of currencies over goods. This preference is indeed natural and perhaps unavoidable whenever the anticipated change in purchasing power over goods is a fall following a rise in prices, for there is no apparent disaster to the majority of consumers in the thought that they will be able to purchase more with their money, but there is apparent disaster in the thought that foreign travel or foreign goods will become more expensive, and there is apparent disaster in the thought that the popular if misconceived symbol of a country's purchasing power and credit, its national currency, should lose in value. Inevitable or not, there is in fact an essential paradox at all times in the very conception of a preference, for the external purchasing power of currencies is as seriously threatened by an acute fall in world prices as it is by an acute rise in domestic prices. Prices fall unevenly, the terms of trade of countries producing goods whose prices tend to fall the most—raw materials and foodstuffs—are rendered adverse, the exchanges of such countries are undermined.

But all the measures adopted in the early years of the depression with this common objective of maintaining the external value of currencies tended to depress prices. Prices fall because there is a collective preference for money over goods. This preference was enhanced by the maintenance in each country of high money rates intended at once to support the exchanges and to induce the depositor to refrain from withdrawing his bank deposit. Prices on world markets were forced down by import restrictions imposed by this or that country to improve its balance of payments. Each country tried to obtain a larger share in the melting snowball of international trade by reducing costs; each undercut the other. This competitive attempt to achieve a common objective failed. The universal attempt by each country to arrest the depression on its frontiers by stopping the germ carriers, the low-priced foreign goods, failed no less inevitably. Domestic prices in all countries were forced down to a point at which the common objective had to be reconsidered. It was at this second stage in monetary policy that the divergencies of collective behavior and the variety of past experience became the most apparent.

Inevitably the debtor states, to which lending had ceased, under a contractual obligation to transfer wealth measured in terms of money, vainly endeavoring to squeeze their products through the closing doors of their creditors' markets, were the first to find the pressure of falling prices irresistible. The choice between the internal and external value of their currencies presented itself in its harshest form. The course adopted was, except perhaps in Latin America, determined in almost every case by past experience, and when later the same choice was forced upon the stronger creditor nations they too followed the dictates of their recent history.

All countries which had had experience of the effects of uncontrolled inflation and exchange depreciation continued to struggle to maintain the external purchasing power of their currencies, even when it became apparent that by no deflationary measures could they restore equilibrium between internal and external purchasing power. Almost all countries, in Europe at least, that had had experience of serious inflation during the twenties but had been able to check it, endeavored to maintain external purchasing power by domestic deflation—almost all, as Portugal, not for the first time in currency history, constitutes an interesting exception to the general rule. Those countries which earlier had suffered from a rapid deflation before returning to gold or from a deflationary brake later when others were advancing in prosperity, and those which had been less directly affected by the War and the subsequent oscillations it caused, adopted a policy—in one case with official jubilation—or accepted without violent resistance a sequence of events which resulted in the surrender of the external and the fortifying of the internal purchasing power of their currencies.

Thus at first sight it would appear that each country had learnt from its own experience during the twenties, but no country whose experience had been bitter—save Portugal—from the experience of others. Such a judgment overlooks one of the major lessons of recent monetary history. The experience of abnormal years rests in the minds not simply of those responsible for policy, but of all those who have suffered it, and influences their behavior. Policy must be and in recent years has been determined not simply by a recollection of the past but by an estimate of prospective collective behavior. Thus the imposition of exchange control may be attributed loosely to inflation phobia. But the experience that had given rise to that phobia had taught the owners of bank deposits, large and small, how to export their capital. Control was imposed in Europe and not, for instance, in the British Dominions, not merely because there was a difference of mentality, but because the forces at play were different. Large-scale capital flight was a real risk in Europe and had to be met in some manner. The generalization of the knowledge of how to export capital had created a new monetary force which could not be ignored. If it had been ignored the exchanges, after depreciating to a point well below equilibrium level, might have recovered gradually towards that level as, in anticipation of an exchange profit, capital was gradually and partially repatriated; but in the process of the initial capital export commercial banks and the whole machinery of credit might have been brought to a standstill. I am not concerned here with whether the policy actually adopted was appropriate or inappropriate, but only with the fact that it resulted not merely from new beliefs but from new habits which modified the forces of demand and supply.

Monetary policy must necessarily be shaped by social behavior. It has in practice been shaped no less in recent years by ideas resulting from past experience which have not created new economic forces by affecting aggregate habit, but have set political limits to the action that on theoretical grounds alone might have seemed desirable. Two beliefs of this nature were largely responsible for determining the policy pursued in France and

Switzerland and also in countries of Eastern Europe where the special forces already mentioned played an equal if not greater part. First, it was assumed, owing perhaps to a misinterpretation of the causal relationship of events during the previous period of inflation, that exchange depreciation would lead to an inflation of currency and prices. Second, in these two countries where a large part of the national savings was in the hands of the peasants, a policy tending towards a rise in prices of manufactured goods, the limits to which could not be foreseen, was held by a large proportion of the electorate to be antisocial and inadmissible. Here two factors were at work, the experience or knowledge of past inflation and the distribution of national wealth. The peasant who invests his capital in his own farm or in fixed interest-bearing securities or leaves it on deposit or hoards it in the form of notes is not concerned with the reflection that the magnet that directs the economic ship in its course towards depression or prosperity is the prospect of industrial profits.

But the line between collective belief or opinion and collective behavior must not be too finely drawn. The belief in the dangers of inflation was a contributory, if not the most potent, technical cause of deflation in France. The public hoarded gold or, half paradoxically, even notes in preference to buying government bonds, and the banks likewise preferred liquidity and unrestricted power to transfer abroad to securities, so that interest rates were kept high by government borrowing, while in the United States, once the brief spell of capital export had spent itself, a growing deficit was accompanied by cheaper and cheaper money. Deflation in France was thus in part the accidental result of general collective behavior or the behavior of one section of the monetary machine and only in part the result of conscious or unconscious central bank policy.

But, if in this country or in that, or at one period or another of the depression, policy was vitally affected by aggregate preferences for foreign currencies or for gold, or by the sudden weakening of such preferences, the central problem of the whole period was the preference for money over goods. To this problem policy was directed as soon as attention was no longer concentrated upon maintaining the external purchasing power of money—and again policies were largely determined by the forces engendered by collective behavior.

Although the experiments made were countless and one type of policy merged imperceptibly into another, they were all directed either to rendering money plentiful and cheap, or to rendering goods scarce and dear or to creating a demand for goods by the state to fill the gap caused by the weakness of private demand. These are indeed the only three logical possibilities.

The course actually adopted was determined by the nature and strength of each country's monetary mechanism, by its monetary and social traditions, by its economic enlightenment, by its political bias at various critical moments, but also indirectly or directly by the particular factors with which I am concerned here: collective behavior and collective belief.

Cheap money as a simple market price policy without control or compulsion was possible where confidence still existed, not only in the money, but in the debtor, and where the banking mechanism permitted it. Where, owing to past experience, or the recent effects of deflation, confidence in the debtor was lacking or an increase in monetary circulation would have created a preference rather for foreign currencies or gold than for goods, it presented far greater difficulties. Cheap money increases the prospects of profits directly by its influence on one element of costs and less directly by reducing the fixed money claims on the national income, by diminishing the gain derived from the exercise of a preference for interest-bearing funds over goods and, later perhaps, by the influence of a more abundant supply of credit on prices. Those countries which did not dare or did not immediately dare to reduce deposit rates because they were afraid of causing a withdrawal of deposits, achieved the first indirect result by compulsory reductions of the interest and even principal of long-term or quasi long-term debts. This process of compulsory reduction of the burden of debt in certain states was thus in part the complement of the cheap money policy adopted elsewhere. It constituted a correction to the changes in the distribution of income which resulted automatically from the fall in prices. It supplemented the half unconscious endeavor in many of these countries to modify the money goods preference by limiting the supply of goods entering the domestic market by means either of exchange control or of devaluation, both of which later allowed credit expansion. Credit expansion was not prevented by exchange control but at one stage by the same factors that caused the control itself, public mistrust of investment, of domestic currency and domestic banks—those very factors which led governments to prefer for a time debt reduction to cheap money. Indeed, exchange control was initially an antideflationary measure and later, when in consequence the hope of maintaining equilibrium between internal and external prices had to be abandoned, allowed domestic credit expansion as fully as did devaluation. It was initially antideflationary because its object was to prevent or control the transfer of gold and foreign exchange, to prevent therefore a reduction in what was the basis of domestic credit. Had transfer continued unchecked it would have been accompanied by domestic deflation unless and until the exchange broke. It was throughout antideflationary in the sense that by checking the import of foreign goods it affected the commodity factor in the money equation. By increasing the disequilibrium between internal and external prices it intensified the difficulties it was designed to counter, except the most serious of all—the risk of the flight of capital. Indeed, the potential risk of capital flight it intensified also, for as foreign money was kept artificially cheap the pressure to obtain and hold it increased. Its effect on the actual risk was determined by its administrative efficiency. It is possible to control prices and keep them artificially low—but there are two byproducts of such action; a queue at the official shop and a black market alongside it.

It is not my purpose to consider the effect of the attempts made in almost all countries by one means or another to influence the money-goods preference by the process of restricting the supply of goods on national markets. Obviously such a policy when generalized must intensify depression by reducing both real income and the prospects of profits, and by accentuating the international price disequilibrium.

The third line of policy as regards the money-goods preference, namely that of creating a state demand for goods to replace the moribund private demand, has been the cause of heated controversy because the collective behavior which gave rise to this policy was in a sense negative and, being negative, doubted. The motives which have influenced states in their decision in recent years to compete in the market for goods on a large scale have been various—war, preparation for war, the relief of unemployment, the belief that by no other means could prices, or those prices vital to the prospect of profit, be raised and the demand for goods in general stimulated. Only the last two concern us here. It was believed that a point had been or might be reached at which a fall of prices became itself the efficient cause of a further fall by creating an expectation that it would continue and by thus postponing or killing demand. Cheap money, it was argued, would not necessarily prevent this process, for businessmen who bought goods would have to suffer a price loss which only a negative rate of interest could cancel.

In certain agricultural areas of Europe, where the fall in prices had left the banks completely illiquid and confidence in them was lost, deposits were withdrawn on a large scale in the form of notes and those notes hoarded. But the hoarding of notes involves special risks and is in part equivalent therefore to a negative rate of interest; further, confidence in those notes waned, although prices were not then rising, and holders began to seek a safer form of saving by building houses. Here the operative factor against the preference for money was the recollection of inflation a decade and a half earlier. The very collective behavior which had rendered monetary policy exceptionally difficult and exceptionally ineffective helped to heal the sores by opening them wider. In no industrial country did the monetary situation degenerate so far as to cause this negative preference for goods to have any permanent effect. Spasmodic crises of confidence led to short-lived bursts of buying from time to time; but either confidence in banks and notes was restored or gold was acquired in preference to goods.

Whether in fact a dead point was reached in any country during the depression at which public demand for goods would not have been stimulated without a negative rate of interest on deposits it is difficult to judge, because in all countries where recovery was not engendered from abroad some direct measures to stimulate demand were adopted by the state. The state either purchased goods itself through public works or placed purchasing power in the hands of consumers less likely to save than spend by means of wages paid through public works, unemployment benefits, and so on.

But there is nothing theoretically absurd in the conception of a state of affairs under which the velocity of the circulation of money can only be stimulated by a negative rate of interest, and such a situation may have arisen in certain areas. It is perhaps most likely to have arisen where an exceptionally large proportion of the industrial mechanism in any country was designed for the manufacture of goods which in lean times the population was prepared to forego. When a large proportion of the total demand of any consuming public is what may be termed secondary demand for goods, the purchase of which they are prepared to forego when their income tends to fall, which they would sooner forego than cut savings, a depression is likely to prove more intense and recovery more reluctant than in a country where a larger proportion of total demand is for absolute or conventional necessities.

Secondary demand is not subject to exact definition. Its composition will vary from country to country. What is indispensable depends not only, indeed not so much, on the standard of living as on the tenacity with which that standard is maintained. When that standard has risen rapidly it is less likely to render demand inelastic than when it has been fought for and won painfully over a protracted period of time.

All demand except that for the barest necessities of semisavage existence is determined by habit or hope. In a depression only the bears have hope and that perverted; habit remains as the foundation of the whole economic structure. The level of constant demand will be determined by the strength of the insistence by the great masses of the population to maintain their standard of living and by the mechanism that they have built up in normal times to assure that end. But in all countries the demand for so-called durable consumers' goods is likely to prove more fickle than the demand for nondurable goods which are on the same scale of consumers' preference in normal times, for their very durability facilitates the postponement of their renewal.

A high income per head of population and an increase in wealth per head of population so rapid that the new standard of living attained has not been embedded in habit are thus both factors likely to intensify a depression once it has started. They are likely moreover to render recovery more difficult, and this for two reasons. First, to a large number of people choice will be not between money savings and goods, but between money savings and the substitution of a new commodity for an old one, when both render services similar in nature if not identical in quality. Second, a larger proportion of the total working population whose power to increase consumption is primarily dependent on obtaining employment is likely to be thrown out of employment when a high percentage of total industrial activity in normal times is concentrated on the manufacture of dispensable goods and on the rendering of dispensable services.

The relative extent to which in fact influences of this nature affected the demand for goods in different countries and directly or indirectly the monetary policy adopted is difficult to judge. But monetary policy is necessarily determined mainly by the nature of aggregate national preferences and it is certain that the collective behavior of different peoples—which determines demand and supply—is largely dependent on their standard of income and varies with it.

There has been a tendency to overlook the importance of the effects of income on aggregate demand, because the changes which have taken place have been less dramatic and more gradual than those in investment habits. The three changes in public behavior and habit in the last twenty years that have most profoundly affected monetary policy all relate to saving or investment. They are those I have already mentioned: the unwillingness of large masses of people to invest either in fixed interest-bearing bonds or in equities; the growing desire for liquidity amongst those who do invest; and the growing tendency, where such action is not constrained, to spread investments over several countries. The investor buys not for the languid satisfaction of an unearned income, but in constant readiness to resell and move his capital from one market to another. Immigration is prohibited or restricted. The import and even the export of goods is restricted, or, more elegantly, "markets are regulated"; only capital, so long as it is not "new," may still move freely over large areas of the world.

Such capital movements in a world in which the gold value of external trade is about one-third of what it was seven years ago, spasmodic and unforeseeable as it is, would threaten seriously any consecutive national monetary policy were special measures not adopted to meet it.

Some countries, as we have seen, have endeavored to meet the difficulty by subjecting all capital to the same control to which goods and human beings are subjected. Unfortunately these are the very countries which are in greatest need of foreign capital, and foreign capital is unwilling to enter a box whose lid will open only one way.

No country has restricted the import of capital since 1929. The difficulties raised by spasmodic inward and outward movements have been met in certain countries with free exchanges by segregating the functions of gold reserves and creating stabilization funds, the professed object of which is to check short-term as distinguished from trend movements of the exchanges. All gold reserves are designed to check *inter alia* short-term exchange movements, and if that was the sole object of the exchange stabilization funds they would be superfluous. In fact, their origin may be traced to two lessons of recent monetary experience learnt but perhaps not generally enough expounded. The operations of such funds differ, when they differ at all, from the operations of a central bank's gold reserve, in two ways and two ways only, if all purely decorative differences are ignored. They are secret; the changes in the gold or exchange assets are not made public. They do not directly or immediately affect the monetary basis of credit. The importance of these two distinguishing characterizations of exchange stabilization funds lies not so much in the degree in which they constitute a departure from previous practices as in the simple fact that special machinery was considered necessary. For gold reserves can be and frequently are concealed—modestly hidden in "other assets"—and the effects of gold movements on domestic credit have in certain countries frequently been nullified by open-market operations. But by the establishment of equalization funds formal recognition was given to the growing importance of two factors which, if not new, have acquired a new significance: the sensitiveness of public opinion to monetary phenomena, and the diffusion of knowledge concerning investment and hoarding opportunities abroad. This sensitiveness and this knowledge affected that collective behavior which in the ultimate analysis must determine policy.

As I stated at the outset the lessons that may be learnt from recent monetary history are manifold. Those I have chosen are perhaps not the most obvious nor the most important. I have stressed the dependence of all policy on aggregate preferences and the dependence of such aggregate preferences in different countries upon recent experience, the level of national income, the rates of income growth, the composition not only of the public debt but of the whole mass of debts within a state and, in this connection, the banking structure which is itself largely determined by national habits, fears and hopes. Policy must be based on an assumption concerning the reaction of public opinion to it. When, as is today the case, public opinion and public behavior have been profoundly influenced by varying and recent experience, it is extraordinarily difficult, if not impossible, to secure united action. Policy has varied from country to country not merely because monetary creeds have varied, but because it has had to control unlike factors or similar factors with varying relative force. It is tempting to oversimplify and to urge that economic laws remain unchanged. They remain unchanged, but the quantities vary. At some price ratio preference will be given to goods over money, to spending over saving, to domestic currency over foreign. But it does not follow that that price ratio can be immediately attained without threatening the whole banking structure or incurring the risk of social upheaval, or alternatively without incurring the risk of excessive additions to the national debt.

APPENDIX

BIOGRAPHICAL SKETCH OF IRVING FISHER[1]

IRVING FISHER was born at Saugerties, New York, on February 27, 1867. He was graduated from Yale University with the degree of A.B. in 1888, and received his Ph.D. from the same institution in 1891. In 1893-1894 he continued his studies in Berlin and Paris. From 1890-1893 he was Tutor of Mathematics at Yale; from 1893-1895 Assistant Professor of Mathematics; from 1895-1898 Assistant Professor of Political Economy; and since 1898 he has been Professor of Political Economy. He was a favorite pupil of Professor J. Willard Gibbs, the mathematician and physicist, and only later became interested in mathematical economics, which has been one of his professional specialties.

He married Margaret, daughter of Rowland Hazard of Peace Dale, Rhode Island, June 24, 1893, and has had three children; Margaret (deceased), Caroline (now Mrs. Hans Baumann) and Irving Norton.

Professor Fisher was one of the editors of *The Yale Review* from 1896-1910. He was Hitchcock Lecturer at the University of California in 1917; lecturer at the London School of Economics and Political Science in 1921; and at the Geneva School of International Studies in 1927. He has received the LL.D. degree from four universities.

Professor Fisher is well known for his advocacy of a money of constant purchasing power. In an autobiographical sketch in his *Stable Money* (1934) he mentions that from 1912 to 1934 he contributed "99 addresses, besides 37 letters to the press, and 161 special articles, as well as 9 testimonies at hearings held before Government bodies and 12 privately printed circulars, together with 13 books"—331 items in all—to the stabilization problem. He was instrumental in forming the Stable Money League in 1921, the National Monetary Association in 1923, and the Stable Money Association in 1925. In 1933 he formed the Advisory Committee of Economists of The Committee for the Nation. In order to be better able to demonstrate the fluctuations in the buying power of the dollar, he established in 1923, through his *Index Number Institute,* the first weekly wholesale price index published as an index of the purchasing power of the dollar, which has appeared without interruption ever since.

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[1] This sketch was prepared by Mrs. Amelia G. Sudela, Secretary to Professor Fisher.

Professor Fisher is the inventor of the *Index-Visible* which he manufactured himself until his company was taken over by the Remington-Rand Corporation, of which he is a Director and member of the Executive Committee. He is a Director and Chairman of the Board of the Automatic Signal Corporation, and of the Euthenics Products Corporation, a Director of the Buffalo Furnace Corporation, the United Endowment Foundation, the Sonotone Corporation, and the Check Master Plan, Inc.

He has been President of The American Association for Labor Legislation, 1915-1917; The National Institute of Social Sciences, 1917; The American Economic Association, 1918; The Eugenics Research Association, 1921; The Pro-League Independents, 1920; The Econometric Society, 1931-1933; and The American Statistical Association, 1932. He was Secretary of the New Haven County Anti-Tuberculosis Association from 1904 to 1914. He is a member of the following organizations: American Association for the Advancement of Science; Phi Beta Kappa; Sigma Psi; Royal Economic Society; Royal Statistical Society; Connecticut Academy of Arts and Sciences; American Academy of Political and Social Science; American Economic Association; American Statistical Association; American Ethnographical Society; New England Free Trade League; International Free Trade League; National Association for Study and Prevention of Tuberculosis; American Association for Study and Prevention of Infant Mortality; National Consumers League; League of Nations Association; American Philosophical Society; Reale Accademia dei Lincei (Rome); Institut International de Statistique; Committee for the Nation.

In 1898, having fallen victim to tuberculosis, he was forced to give up his work temporarily. This experience led him to an intensive study of hygiene. He became the sole representative of National Vitality on President Theodore Roosevelt's Conservation Commission, whose widely read *Report on National Vitality* he wrote. In 1913, with Harold A. Ley and former President Taft, he founded the Life Extension Institute in order to arouse public interest in the promotion of health through sane living, coupled with periodic physical examinations. He is chairman of the Hygiene Reference Board of this Institute. Together with Dr. Fisk, Medical Director of the Life Extension Institute, he wrote the book *How to Live*, which has become a standard textbook for health instruction in many of the high schools and colleges in the United States. It is now in its nineteenth revised edition, more than 400,000 copies having been sold in America. It has also been translated into Spanish, German, French, Polish, Russian, Italian, Swedish, Norwegian, Chinese and Japanese. In line with these efforts, he also wrote *Prohibition at Its Worst* (1926); *Prohibition Still at Its Worst* (1928) and *The Noble Experiment* (1930), the latter two with H. B. Brougham. He organized and was chairman of the Committee of One Hundred on National Health of the American Association for the Advancement of Science; he also organized the American Eugenics Society, was Chairman of the Board, Scientific Directors, Eugenics

Record Office (1917), and Vice-president for the United States of the Third International Commission on Eugenics. He was also Chairman of the Subcommittee on Alcohol of the Council for National Defense in Wartime, and President of the Citizen's Committee on Wartime Prohibition and of the Committee of 60 on National Prohibition. Only recently he founded Vitality Records for the purpose of recording the effects of habits on health.

Professor Fisher's interest in world peace dates back to 1890 when, as a graduate student, he read a paper on the necessity for a League of Nations to the Yale Political Science Club. In 1914, at the beginning of the World War, this paper was published and led to the formation of the League to Enforce Peace through which President Wilson became interested in the project of a League of Nations. Professor Fisher is still a member of the executive board of the League of Nations Association. Two books, *League or War* (1923) and *America's Interest in World Peace* (1924), and a great number of popular articles, are further testimony to his active interest in the problem of peace.

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